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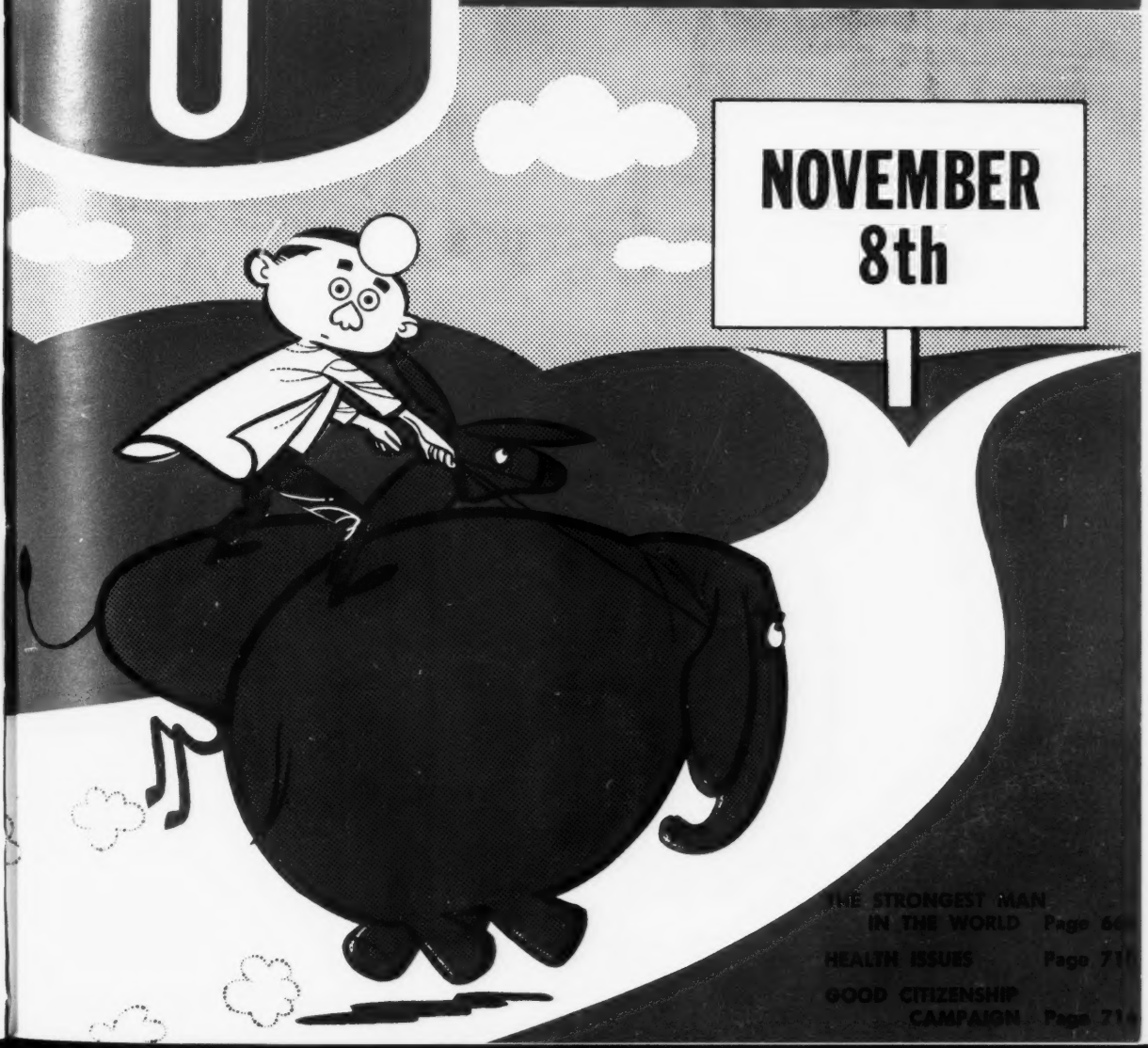

THE STRONGEST MAN IN THE WORLD Page 66
HEALTH ISSUES Page 71
GOOD CITIZENSHIP CAMPAIGN Page 71

Editorial

A Lesson in Christian Religious Philosophy

A saint is commemorated on the day of his death i.e., the day he entered heaven. This is the logical application of Christian belief; and yet the day of death, particularly of a young man whose future seemed bright before him, is one of almost unbearable grief and desolation even in the most Christian of homes. Is God a God of Vengeance or is He still a God of Love? The physician is often called on for the answer. To help him, the Journal *reprints below the remarks of The Reverend Byron Cravens at the memorial service for Kip Mohler, the seventeen-year-old son of Doctor and Mrs. Clyde Mohler of Ponca City, whose premature death was sudden, violent and accidental.*

MEMORIAL SERVICE FOR KIP MOHLER
July 9, 1960

Scripture Lessons: Psalms 23 and John 14.

In our humanity, we come this morning wondering: Why did this happen—this accident, the occurrence of which depended upon split-second coincidence? Why did this happen to a boy who would have been a senior in high school next year, a boy in the full vigor of youth?

But our Christian Faith wells up within us speaking persuasively, steadying us, and giving us courage.

The last time you worshipped here, you did not doubt that God was in command in this, His world. He is still in command this morning. The God who was a God of love when you last worshipped here, is a God of love still this morning. God has not changed, nor has He been changed.

The God who was concerned about you a week ago and who was interested in your welfare then, is interested still in you, and is even more deeply concerned about you this morning in your sorrow.

Our human situation from which we view God has changed, but God is the same.

There is much we do not understand this morning, and there is no final answer to our lack of understanding. Not an answer to our problem and it is a problem; but a fact of God's universe is that it was not meant that we should understand. If we could understand, we would be God.

Yet, there are bits of light which filter in through the vast covering of darkness and sadness which seems so oppressive to us this morning. Think deeply, for there are no surface helps.

Look with me first at the will of God. God's will is of two kinds: God intends some things to happen, He plans for them to happen, He "purposes" for them to happen—this we call God's intentional will, or His purposive will. Secondly, out of respect for man's freedom, God permits the unimpaired functioning of His laws, the laws of nature. He does not interfere with their functioning. This we call God's permissive will—He permits events to occur, though He does not intend them to occur. This accident, He did not intend, He did not purpose for it to happen, but He permitted it to happen. For this is a dependable universe, and God's natural laws function without variance upon guilty and innocent, upon man and beast, upon man and God. As God expects us to obey these, His laws, so He, too, does not break them.

This unalterable functioning of God's laws is a necessity if His universe is to be dependable. Though there is much we do not understand, this much we do understand: it is one of God's laws that two physical objects traveling in opposite directions

cannot collide without a terrific impact, and without the danger that the human beings involved will suffer. This is what happened. Had God broken this, His law, and supernaturally intervened so that this accident would not have occurred, then He would have ceased to be a dependable God, and stability of life and certainty of God and Natural Law would have gone out of the life of each of us, and nothing would be dependable for any of us this morning. At times, one, or many, of God's children must suffer, even die, in order that dependability and integrity of life may remain for the rest of the great human family.

God did not intend this accident to happen. He is a God of love. But, He permitted it to happen out of deference to man's freedom, and because He does not interfere with the operation of His laws which He obeys, just as He requires us to obey them.

This was an accident whose physical consequences distress us, but it was not a physical accident with any hidden spiritual meanings. To be more specific: Our God does not send such physical events as spiritual punishment upon the victim of the accident, nor upon those who are brought to sorrow because of the accident—because of anything that either the victim, or those who loved him, have done, or failed to do.

There is a verse of Scripture whose meaning I have questioned many times: "We know that all things work together for good to them that love God . . ." (Romans 8:28). This is not true if we confine life to a short view, to today, to the consequences of this accident; but it is true from the perspective of our total life. The emphasis belongs on the words "all things." Not this experience alone, but this together with all the rest of life's experiences work together for good to them that love God. The immediate pain and sorrow seems unbearable; but sorrow bravely borne with God's help, begets a depth of understanding and a source of strength which makes life richer and more precious and which will ultimately work for good. The thread of this experience can be woven into the fabric of our life and it can become a thing of strength and beauty and goodness. Our part as Christians is not to try to bear this by ourselves; but rather to allow God to supplement our own feeble strength so that this experience can be woven into the fabric of our life to make it all a thing of genuine goodness.

To the family, I should like to say two things:

First, the genuine beauty of this young life will shine always as a gem of great value, and you will want ever to hold dear his precious memory. Kip was a normal boy. He came from a Christian home. He was baptized in infancy, and I received him into this church where he was active. He liked model airplanes. He played in the High School band. He liked tennis and photography. He had a summer job. These personal treasures from out of his life you will want ever to hold dear.

Second, this is not the end of the life of his soul. His spirit is at home with God and will remain there throughout all eternity. In proportion, as you release Kip, whom you loved, into the complete love and care of Almighty God, you wi'l be sustained and your sorrow will be more bearable. This morning, concentrate upon this: release him into God's care and keeping, and do not question God's ability to handle any phase of it by trying to hold on to Him yourself.

God is a God of love. His love for you was never more real, nor more available, than at this moment. Hear God Himself speak to you through His Son, Jesus Christ, our Lord: "Peace I leave with you. My peace I give unto you. Not as the world giveth, give I unto you. Let not your heart be troubled, neither let it be afraid."

BYRON CRAVENS, Pastor
Nichols Hills Methodist Church

THE STRONGEST MAN IN THE WORLD*

When you are standing there in the quiet of the voting booth you are the strongest man in the world. No man anywhere has more power than you have at this time.

By making your ballot for men and principles you are making history. You are adding muscle to American democracy. You are expressing for posterity your own sense of right and wrong. You are participating in the direction of a nation and fostering those elements of democracy that made America great.

In assuming leadership among nations the United States also assumes the responsibility that goes with it. Nowhere better than at the polls do you assume your share of that responsibility.

Because the greatness of your land springs right out of your own daily living, vote in every election. Vote as a citizen assuming his responsibility, vote as a man making use of a guaranteed right, vote—as the strongest man in the world!

—from Gregory E. Stanbro, M.D.

Perhaps the physicians of Oklahoma will persuade their 30,000 daily patients that they, too, are the strongest men in the world when they Vote on November 8. To this end, the Council on Public Policy announces a Good Citizenship Campaign on page 714 of this issue.

*Reprinted by permission from **Oklahoma**, (O.C.C. of C.) Thursday, September 22, 1960.

Scientific Articles

Prevention of the First Attack of Rheumatic Fever

JEROME D. SHAFFER, M.D.

WILLIAM BEST THOMPSON, M.D.

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Doctor Shaffer is a member of the Oklahoma County Heart Association, the Oklahoma State Heart Association, the American Academy of Pediatrics, the Oklahoma City Pediatrics Society and the Osler Society.

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THE NEWER CONCEPT of preventing the first attack of rheumatic fever in a susceptible school population in Oklahoma was the object of this pilot study. To do this, it was necessary to pick up as early and as thoroughly as possible, all Beta hemolytic streptococcal infections in children with upper respiratory illness and to devise a means of more effectively controlling the spread of the Beta streptococcus in the school population.

Clinical, immunologic, epidemiologic and prophylactic evidence has overwhelmingly established the etiologic relationship of the Group A streptococcus to rheumatic fever. Clinically, physicians have noticed an association between sore throat and acute articular rheumatism for at least 200 years. The historic important work, the epidemiologic and bacteriologic studies of Coburn[1] in 1931, as well as Collis,[2] laid the foundation for the modern etiologic concept of Group A Beta hemolytic streptococcal infection in rheumatic fever. The large number of streptococcal infections which occur without apparent clinical symptoms, as well as the inability of the physician to diagnose an acute streptococcal infection, accounts for the fact that from 25 to 50 percent of patients with clinical rheumatic heart disease can give no history of streptococcal infection.

Long term immunologic studies of rheumatic subjects now indicate that virtually all initial and recurrent attacks of rheumatic fever can be shown to be associated with recent streptococcal infection.[3]

Numerous studies have emphasized the close relationship of the clinical, geographic and seasonal epidemiology of rheumatic fever and streptococcal infections. The careful bacteriologic and immunologic studies[4]

done in the Armed Forces of streptococcal epidemics in rheumatic fever presented extensive data to indicate that the environmental, bacterial and host factors are important, primarily as they are related to the incidence of preceding streptococcal infections. The factors of crowding, dampness, economic situation, altitude, latitude and age affect the incidence of rheumatic fever as they are related to the incidence of streptococcal infections in general.

The intensity of the immune response is measured by the antistreptolysin-O titer and is a major factor which may modify the attack rate of rheumatic fever. In general, the highest resultant rheumatic fever rates have been found in those groups of patients who have the significantly elevated convalescent antibody titers. The peak incidence of rheumatic fever falls in the school age population between the ages of 6 and 10 years when the highest level of streptococcal antibody titers are found and when the streptococcal infection is most intense.[5] For this reason the first grade of Putnam City School was chosen for this study.

It is of interest that Streitfeld and Saslaw[6] found an incidence of 37.9% of Group A streptococcal infection occurring at least once in a school year in healthy first and second grade children in Miami, Florida. They believe it reasonable to assume that approximately half of the children six to eight years of age in Miami, harbor these organisms in their throats at least once a year. It is significant that these Miami children from whose throats the organisms were recovered had significantly higher antistreptolysin-O titers than those from whom no such organisms were cultured. In the opinion of Stollerman,[7] it was highly significant, however, that the antistreptolysin-O titers observed in these children were very much lower than those seen in the same age group in large cities of the temperate zone of the United States, and that the magnitude of the rises reported in their study is small compared with the rise in children infected with streptococci who live in areas where rheumatic fever is relatively common.

Recurrence of rheumatic fever of 50% or more has been observed in outbreaks of streptococcal epidemics among children convalescing from recent rheumatic fever attacks, and among rheumatic children who have not been kept on continuous prophylaxis.[4] Careful study of the theories as to whether or not the rheumatic fever subject is genetically predisposed to react in this fashion to streptococcal infection or whether the rheumatic state is an acquired form of hyper-reactivity in a certain predisposed host as the result of intensive streptococcal infection yields no definite conclusion at this time.

The fact that the immune response in rheumatic fever subjects have not revealed any characteristic response that cannot be found in non-rheumatic persons who have been exposed to streptococcal infection; that there has been no qualitative or quantitative difference in the antibody formation in rheumatic fever patients as compared with the antibody response of non-rheumatic subjects, has continued to bewilder the research scientist.[8] Diamond[9] has noted that the constitutional features of hair color, eye color, racial acceptability, body build, blood groups, and salivary secretor status, were not able to be related to a constitutional rheumatic factor. Hyperextensibility of the joints was the only positive constitutional feature.

In regards to the rheumatic fever type of the rheumatic constitution, Paul[11] also reviewed several studies of physical characteristics in victims of rheumatic fever and concluded that measurements are difficult and the data and literature so conflicting, that it would seem unwise to pursue this subject beyond mentioning that the theory of a rheumatic fever constitution has its proponents.

Susceptibility to rheumatic fever may be genetically determined to a significant degree by family studies, twin studies and studies of physical characteristics. Concentration of studies in rheumatic fever in families has been conducted in various cities. By itself, such familial aggregation is unsatisfactory evidence for genetic predispo-

sition.[10] However, the difference in proportion of affected siblings according to its occurrence in the parent generation, for example, whether neither parent, one parent, or both parents have had rheumatic fever, seems explainable only on genetic grounds. Wilson[12] has suggested that genetic predisposition is inherited as an autosomal recessive. Significant increase concordance for rheumatic fever monozygotic twins have been reported several times.

The most drastic line of evidence for relationship of Group A streptococci to rheumatic fever has been the realization that the proper treatment and control of streptococcal infections will reduce the incidence, the morbidity and the mortality of rheumatic attacks. Prompt and adequate treatment of streptococcal pharyngitis in the general population will reduce the incidence of initial attacks of rheumatic fever.[7,13-15]

Cornfeld[16] in an epidemiologic study of 1,000 children, has noted that approximately one-half of the children studied had Beta hemolytic streptococci in their throats at some time during the school year in the absence of clinical symptoms. Routine throat swabs from healthy children were responsible for more than 75% of the positive cultures.

The literature reveals the incidence of the 25-40% of streptococcal infections of healthy first and second grade school children in Miami, Florida,[17] as well as the incidence of approximately 50% of the children in Philadelphia,[16] 5.2-51.2% in Orange County, California,[19] 6% in Youngstown, Ohio,[20] 2-6% in the normal childhood population in Los Angeles, California,[21] 19-43.8% in Yankton, South Dakota,[22] 3-4% in Cheyenne, Wyoming,[23] 2.2-45.7% in Casper, Wyoming,[24] and 34% in Fort Byron, New York.[25] These samples of positive Beta hemolytic streptococcal throat cultures in children varied from the positive culture taken in the asymtomatic child, to those children with two or more indications of a streptococcal infection in an epidemic. Variation in the state of health of the subject as well as variation in laboratory technique accounts for the range of statistics. Cultures so taken may represent a carrier state for an indefinite time, a recent infection or even a transient organism. Unless abnormal antistreptolysin and/or typable organisms are taken with the culture, the exact state cannot be determined.

The factors previously enumerated, such as crowding, dampness, age, etc. which affect the incidence of rheumatic fever may alter the tissue resistance of the well child with an incidental Beta hemolytic streptococcus cultured from his throat.

When a clinical illness of any degree occurs, the antigenic response will be reflected by an increase in ASO titer and this child is a potential candidate for rheumatic fever.

It is the opinion of the authors that the higher the percentage of streptococci in the healthy child population, the greater the potential for the development of rheumatic fever, if the contributory factors of environment, family, susceptability, and social-economic status are altered to predispose to clinical illness.

In order to devise a practical plan, it was thought that the children of Putnam City Schools who were absent due to upper respiratory infection should have a throat culture. In brief, through the cooperation of the Putnam City School system, the school physicians, school nurses, the State Health Department and the cooperation of the City-County Health Unit, the Visiting Nurses Association and the Rheumatic Fever Prevention Committee of the Oklahoma State Heart Association, cultures were taken from all first grade children who were absent due to upper respiratory infections. The bacteriologic diagnosis was determined in the bacteriology laboratory of the Oklahoma State Health Department. The patient's private physician was notified of the positive Beta hemolytic streptococcal cultures and was urged to give adequate therapy. The children with positive cultures were returned to school upon the advice of their physician and a repeat throat culture was taken. If the repeat throat culture was positive, the patient was returned to his private physician for further treatment.

TABLE I

Respiratory Illness Frequency, Putnam City First Grade, School Year 1958-1959

Number of Illnesses	Number of Children	Per Cent of Children
0	262	46.2
1	205	36.2
2	83	14.6
3	13	2.3
4	3	0.5
5	—	—
6	1	0.2
Total	567	100.0

Division of Statistics
Oklahoma State Department of Health
July, 1959

The Putnam City School System comprises a rapidly growing, rural-urban area and was chosen because of the wide spread in social, economic and environmental conditions. The number of school absenteeisms in Putnam City first grade revealed approximately 2,500 absences in 560 children for the year 1957-1958 and was compared to the 305 absences in 567 children for 1958-1959.

Of the 567 children in the first grade in the school year 1958-1959, 305 or 53.8% had an upper respiratory infection. 262 or 46.2% of the children had no upper respiratory illness sufficient to cause absence from school (See table I).

One hundred fifty of the 305 children who were absent had negative throat cultures. One hundred seventy-three illnesses resulted in positive Beta hemolytic streptococcal cultures. One hundred thirty-nine of these children had one illness resulting in a positive culture; 14 children had two illnesses resulting in a positive culture; two children had three illnesses with positive cultures (See table II).

TABLE II

Positive Beta Hemolytic Streptococcal Illness Frequency, Putnam City First Grade, School Year, 1958-1959

Number of Positive Illnesses	Number of Children Ill	Per Cent of Children
0	150	49.2
1	139	45.6
2	14	4.6
3	2	0.6
Total	305	100.0

Division of Statistics
Oklahoma State Department of Health
July, 1959

TABLE III

Duration of Illnesses Before Culture, Number and Per Cent, Putnam City First Grade, School Year, 1958-1959

Number of Days Ill Before Culture	B. Hemolytic Strep. Positive		B. Hemolytic Strep. Negative	
	Number	Per Cent	Number	Per Cent
1	98	56.6	159	62.4
2	23	13.3	30	11.8
3	13	7.5	24	9.4
4	3	1.7	1	0.4
5	2	1.2	2	0.8
6	2	1.2	1	0.4
7	2	1.2	4	1.6
21	—	—	1	0.4
Unknown	30	17.3	33	12.9
TOTAL	173	100.0	255	100.1

NOTES ON INTERPRETATION:
NO STATISTICALLY SIGNIFICANT DIFFERENCES.

Average length of illness at time of culture is same for both positive and negative group. Both averages are 1.62 days.

Division of Statistics
Oklahoma State Department of Health
July, 1959

An overall incidence of 50.8% positive Beta hemolytic streptococcal cultures was present in the respiratory infections of the absentees. This incidence of 50% occurred in a "light" year for streptococcal infections.

It is of interest that the duration of the illness revealed no statistical significant difference between the positive and negative group of cultures. Both averaged 1.62 days (See table III).

PART II

A typical, acute upper respiratory infection due to the hemolytic streptococcus begins suddenly with a sore throat, adenitis and a fever which may rise as high as 104°. Abdominal pain is not infrequent in these children. When seen early in the course of illness, the throat has a characteristic red, beefy appearance. A follicular exudate is usually present, but not necessarily. The regional lymph nodes generally are swollen and quite tender. There may be suppurative otitis media and sinusitis as a complication. The clinical findings, as set forth above, indicate a streptococcal infection. A leucocytosis of over 12,000 is generally considered consistent with the diagnosis of a strepto-

coccal infection. According to Rammelkamp,[26] the classical triad with a throat infection of fever, pain upon swallowing and adenitis, allow a clinical diagnosis of 70% accuracy. A clinical error of 30% in diagnosis is far too great for good medical care.

The atypical and far less characteristic respiratory infections which may also be due to hemolytic streptococcal infection, and which if untreated and unrecognized, may also lead to rheumatic fever, is the great problem. Shaffer and Pfundt[27] have shown that even the most competent board certified pediatricians will miss 20% of streptococcal infections unless bacteriologic studies are routinely used on suspicious throat infections. Breese and Disney[28] also emphasized the difficulty of accurate diagnosis of Beta streptococcal infections on clinical grounds. In their study, when checked against bacteriologic cultures, the accuracy in both positive and negative cultures were approximately 75%.

As set forth in table IV, it can be noted that the occurrence of four symptoms are statistically significant: that of the sore throat, fever, pain on swallowing, and swollen or tender cervical glands.

It is thus apparent that the major limitations of the chemotherapeutic approach to the prevention of initial attacks of rheumatic fever are the difficulty of clinically identifying a streptococcal sore throat and the fact that at least one-third of the patients with acute rheumatic fever do not appear to have had a clinically apparent streptococcal infection. In infants and very young children, the difficulties of diagnosis are far greater because the characteristic symptoms and signs are far less apparent.

Of 173 illnesses with the first culture positive, the first follow-up culture on return to school was also positive in 47, or 27.2% of the illnesses. Of the 173 positive culture illnesses, 126, or 72.8% received adequate treatment by the American Heart Association standards to prevent sequelae or complications.

To prevent the complications of subsequent rheumatic fever, Group A streptococci must be eradicated completely from the nose and throat of the patient who has a streptococcal pharyngitis. Clinical cure of the signs and symptoms of the infection is inadequate if the organisms persist after treatment.[29] Institution of eradication therapy as long as 72 hours after the onset of the infection

TABLE IV

Statistical Significance of Differences in Occurrence of Symptoms, Putnam City First Grade School Year, 1958-1959

	Per Cent Having Specified Symptom		Statistical Analysis			
Symptom	B. Hem. Strep. Pos.	B. Hem. Strep. Neg.	Diff.	S.E. of Diff.	Rel. Dev.*	Prob.
Sore throat	88.4	74.5	13.9	3.9	3.6	.0003
Headache	45.7	41.2	4.5	4.9	0.9	.37
Fever	75.1	58.8	16.3	4.7	3.5	.0005
Abdominal pain	32.4	37.6	—5.2	4.7	—1.1	.27
Nausea or vomiting	22.5	22.7	—0.2	4.1	—0.0	1.00
Pain on swallowing	52.6	39.6	13.0	4.9	2.7	.007
Subj. sore thrt.	41.0	34.9	6.1	4.8	1.3	.19
Swollen or tender cervical glands	69.9	59.2	10.7	4.7	2.3	.02

*RELATIVE DEVIATE is Diff./S.E. of Diff.

NOTES ON INTERPRETATION:

A probability of .05 or less is generally considered to represent a statistically significant difference. By this, the differences in occurrence of four symptoms are statistically significant—sore throat, fever, pain on swallowing, and swollen or tender cervical glands.

Division of Statistics, Oklahoma State Department of Health, July, 1959

will be as effective in preventing rheumatic fever as treatment instituted immediately.

Of importance is the evidence offered by Thomson and Innes,[30] Green,[31] and Collis,[32] that rheumatic valvulitis might be due to invasion of the valvular endocardium by the Group A streptococcus; in other words a bacterial endocarditis. Mortimer's[33] Series tend to reveal the usual symptoms and signs of the disease but a definite decrease in valvular disease as compared with a control group not receiving six weeks of intensive penicillin therapy—further evidence is thus offered that the Group A streptococcus must be eradicated from the body. Marienfeld[18] et al report the isolation of diplostreptococci from the blood of patients with active rheumatic fever; thus confirming the work of earlier investigators and suggesting that rheumatic fever and subacute bacterial endocarditis are different only in the hypersensitivity and immune responses of the patient.

Sulfanilamides which are bacteriostatic will eradicate the streptococcus but will not prevent non-bacterial complications. Penicillin, although a powerful bactericidal agent, must be administered well beyond the clinical cure to eradicate permanently the streptococcus from the throat and to prevent non-bacterial complications.

Different forms of injectable penicillin result in various blood levels. Six hundred thousand units of penicillin G will cause very high levels for a few hours. Six hundred thousand units of aqueous procaine penicillin produces lower levels lasting for two days. When procaine penicillin is combined in oil with aluminum monostearate, the levels are still lower and last four days. Injection of benzathine penicillin (600,000 and 900,000 units) will provide still lower levels, but these blood levels persist 10 to 14 days and usually cure most cases of streptococcal pharyngitis. One and two-tenths million units of benzathine penicillin will give longer lasting levels for approximately 28 days, with resultant cure in nearly 100% of the cases.

In the administration of penicillin parenterally, any schedule may be employed which maintains an effective blood concentration of penicillin for a ten day period. Group A streptococci are invariably sensitive to penicillin levels of less than .04 units per milliliter *in vitro*. Therefore, the blood concentration need not be high to achieve a maximum killing effect *in vivo*.[34] *Once these blood levels have been achieved, the efficiency of chemotherapy is a function of the duration for which they are maintained.* Therefore, a single injection of benzathine penicillin, particularly in a larger dose of 1.2 million units, will achieve a cure of streptococcal pharyngitis both clinically and bacteriologically, with as great efficiency as any other course of penicillin administered in any dose for 10 days. Six hundred thousand units of procaine penicillin, given every other day for four doses, will result in a bacteriological cure rate of 95%. The same cure rate will result from a *single* injection of 1.2 million units of bezathine penicillin.

Tetracycline compounds or erythromycin treatment for 10 days also eradicates, but less efficiently, the organism from the throat and reduces the incidence of rheumatic sequelae. These broad spectrum antibiotics may be reserved for those patients who are hypersensitive to penicillin.

As set forth by the above standards, the number of Putnam City children with positive cultures receiving inadequate therapy was 47. It is a coincidence that this is the same number which had a positive follow-up culture. They were not the same 47 children however. In one of the two children who had three illnesses resulting in positive cultures, a peritonsillar abcess, secondary to streptococcal infection, was discovered and in the second child, cultures of the family group revealed adult carriers. As brought out by Poscanzer,[25] in carrier studies conducted in 124 families of children with positive streptococcal cultures, 7% of the adults over 24 years of age and 24% of the siblings had positive Group A Beta hemolytic streptococcal cultures. Forty families which did not have children in the school also had throat cultures. None of the adults more than 24 years of age in his second group

were found to have streptococci in contrast with 4% of the adults cultured the same day in school-associated families. These observations tend to support the hypothesis that the school is the focus of infection and that families with children in school have a higher rate of infection than families without children in school. However, in both groups of families, the adults in his study appeared to be relatively resistant to infection.

This study, it is emphasized, is merely an attempt to apply existing knowledge in actual prevention of rheumatic fever. Indirectly, it is a study of the epidemiologic streptococcus in Oklahoma in a selected sample.

As set forth by Madsen and Kalbak,[35] the commission on acute respiratory diseases;[36] Weinstein and Potsubay,[37] and last by Rammelkamp, Wannamaker and Denny,[38] the incidence of rheumatic fever will vary from 3.6 to 2.6 following a streptococcal infection. If a streptococcal epidemic is present, the incidence may rise an additional 2%. In this study which revealed 173 streptococcal illnesses with one or more positive Beta hemolytic throat cultures, an expected rheumatic fever incidence would be five to six cases. In this study, the results show not a single case of acute rheumatic fever had resulted in the children in this group. One child had acute glomerular-nephritis when seen by her private physician at her first visit after the report of the positive throat culture. This particular child had been ill two and one-half weeks before the original culture was taken and it is apparent that clinical nephritis was present when the child was kept out of school and the initial positive throat culture was taken.

All respiratory infections should be given serious attention in children of school age. Only by the use of throat cultures more routinely can the treatment of upper respiratory infections be placed on a sound scientific basis. A practical approach to the prevention of the initial attack of rheumatic fever has been shown to be feasible through the complete cooperation of the various groups involved. This preventative program was found to be workable, without the disruption of school routine and with the safety of the uninfected child. By the exclusion of strept-infected children, as an educational effort to the layman, parents, and doctors, the study was very effective in increasing knowledge of rheumatic fever.

The final answer to the prevention of the initial attack of rheumatic fever is not present. In our opinion the chemotherapeutic approach to the prevention of the first attack is the best procedure at this time. With a positive culture, in the authors' opinion, there should be further serologic study to determine the full significance of the infection. It is to be emphasized that the proper diagnosis and treatment of streptococcal infection as well as the diligent protection of the rheumatic heart patient will markedly reduce the incidence of the dread disease. The knowing physician whose level of personal responsibility is high will apply this knowledge that is readily available.

Conclusions and Summary

(1) The current status of the epidemiology, prevention, diagnosis, and treatment of rheumatic fever is presented,

(2) A practical cooperative method of preventing rheumatic fever in a school age population has been demonstrated,

(3) One hundred seventy-three positive streptococcal cultures were found in 567 children in this selected school group,

(4) One hundred twenty-six (72.8%) were given adequate therapy initially, according to American Heart Association Standards,

(5) Forty-seven (27.2%) received initially inadequate therapy but even these were eventually given enough antibiotic therapy to convert their throat cultures,

(6) No cases of acute rheumatic fever developed in this group of 173 although a minimum of five would have been anticipated,

(7) One case of pre-existing acute glomerulo-nephritis was discovered.

(8) The efficiency of this procedure is applicable to entire school population,

(9) Cooperation among all participating groups and agencies is the key to prevention of rheumatic fever.

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M. L. Peter, M.D., Oklahoma City-County Health Department.

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Pasteur Buidling

Oklahoma City, Oklahoma

The Blues Lead In Enrollment Of Civil Service Workers

Blue Cross-Blue Shield led all other organizations in the enrollment of federal workers who became eligible for health insurance benefits under the Federal Employee Health Benefits Act (Reported in June, 1960, *Journal.*)

More than 55% of the estimated 1,695,000 federal workers who selected coverage from among the 38 programs available chose to enroll in Blue Cross-Blue Shield. The 935,000 workers who selected Blue Shield more than doubled those who selected the indemnity-benefits-program provided through a commercial insurance company.

Blue Shield officials consider the wide margin to be a vote of confidence, and proudly point out that the preference reflected by the federal workers is indicative of the leadership the Blues have continued to display in the enrollment of large segments of the public.

Disappearance of Metastases Following Nephrectomy for Carcinoma*

HUBERT G. BUEHLER, M.D.

ANGEL BETTAGLIO, M.D.

LUCIEN C. KAVAN, M.D.

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At the time this paper was written, Angel Bettaglio, M.D., was taking a residency in Urology at the University of Oklahoma Medical Center. He is now in private practice in San Salvador, El Salvador.

A 1942 graduate of the Harvard Medical School, Lucien C. Kavan, M.D., limits his practice to his specialty, urology. He is eligible for certification by the American Board of Urology.

Doctor Kavan is an instructor in Urology at the University of Oklahoma School of Medicine.

THE SPONTANEOUS REGRESSION of metastatic lesions after the removal of a carcinomatous kidney is a rare occurrence. The literature contains only a few reports of complete regression of metastases after the removal of the parent tumor.[1,2,8,9,10,11,12] Included herein is a report of two cases demonstrating resolution of pulmonary metastases following removal of a carcinoma of the kidney.

A 59 year old male was admitted to the Veterans Administration Hospital on 10-26-58. The admitting diagnosis was reducible scrotal hernia. The genito-urinary history was significant. In 1954 an intravenous pyelogram was done because of urinary frequency and dysuria. The patient was told the left kidney was "tilted." In 1956 and in 1958 he had bouts of gross, total, painless hematuria. The last episode was one month prior to admission. A five pound weight loss had occurred over the past two or three years.

Physical examination revealed a well-developed, thin, white male. The positive physical findings were a large, firm, non-tender, fixed mass in the left upper quadrant of the abdomen which moved with respiration and a left scrotal hernia. The prostate was normal in size and consistency.

Admission hemogram showed 7,300 white blood cells, a hemoglobin of 12.3 grams and a hematocrit of 49%. The urine was free of protein and contained four to six white blood cells per high power field. Blood urea

*From the Urological Service, University of Oklahoma Medical School Hospitals, Oklahoma City, Oklahoma.

nitrogen was 10 mgm/%. Chest x-rays showed several discrete rounded densities bilaterally which were variable in size and consistent with lesions typical of metastatic carcinoma (figure I-A). The scout film of the abdomen revealed a large, oval, soft-tissue shadow occupying the left upper abdomen and displacing the bowel pattern medially. Intravenous pyelography showed prompt excretion and normal anatomy of the right kidney. The left kidney was non-functioning. A left retrograde pyelogram showed marked distortion of the upper calyces (figure I-B).

A left nephrectomy was done on 11-19-58. A tumor mass measuring fifteen by thirty centimeters was removed. Extension of the tumor to the caval and aortic areas with involvement of the renal vein was noted. The post-operative course was uneventful except for a straphylococcal infection. The follow-up chest films at the time of discharge showed little, if any, change. The microscopic diagnosis was clear cell carcinoma with extension into the renal vein.

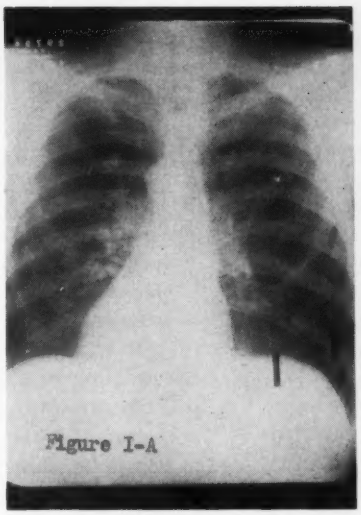

Figure I-A

Figure I-B

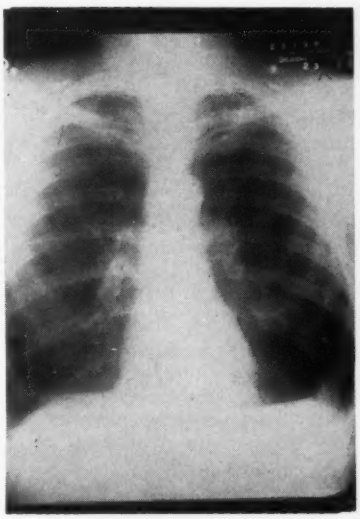

Figure I-C

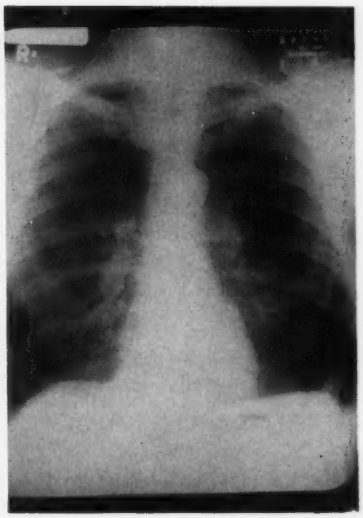

Figure I-D

Figure 1: First case reported. (A) Pre-operative film showing pulmonary metastases. (B) Left retrograde pyelogram showing distortion produced by carcinoma. (C) Regression of pulmonary lesions 10 months post-operative. (D) Complete regression 14 months post-operative.

On 9-22-59 the patient was readmitted for evaluation. He had gained twenty pounds and was symptom-free. Except for the previously described hernia and a well healed nephrectomy scar, the physical examination was negative. A chest film taken 10 months post-operatively showed almost complete disappearance of the pulmonary metastases (figure I-C). No bony metastases were detected on either the chest or abdominal films.

An inguinal herniorrhaphy was done. The post-operative course was complicated by a staphylococcal infection which cleared very slowly. At the present time which is over fourteen months since the nephrectomy, there is no clinical or x-ray evidence of malignancy (figure I-D). The patient is doing well. Although at no time was a biopsy of the pulmonary lesions obtained, the x-ray findings were typical of metastatic disease.

The second patient is a 59 year old white

female who was first seen in the Emergency Room of the University Hospital complaining of severe pain in the left lower quadrant of the abdomen accompanied by chills, nausea and vomiting. The pain persisted for approximately thirty minutes and then subsided. About one week prior to this episode she had noticed her urine to be cloudy. She was referred to the University Outpatient Clinic for investigation. An intravenous pyelogram was done which revealed a large soft tissue mass in the left kidney associated with blunting of the calyces. The right kidney showed prompt function and normal architecture.

The past history revealed a "heart attack" about seven years previously. She had been hypertensive during the past three years. At the age of twenty-two a nineteen pound ovarian cyst had been removed and at the age of thirty-six a hysterectomy had been done for hemorrhage.

Physical examination presented an obese white female who appeared chronically ill. The blood pressure was 126/76. The temperature was 98.6°. Tenderness was noted in the left upper quadrant of the abdomen and in the left costovertebral angle. No masses were palpable. Further examination was not remarkable.

Laboratory data showed a hemoglobin of 8.3 grams percent and a BUN of 13 mgm%. The urine contained 15-20 WBC/HPF without protein or casts. Urine culture produced two varieties of coliform bacilli. The ECG was compatible with an old myocardial infarction. A left retrograde pyelogram showed a hydronephrotic left kidney. A preoperative chest film was reported as normal.

After several whole blood transfusions, a left nephrectomy was done. Numerous perinephric adhesions were found. A tumor was present in the lower pole of the kidney with a concomittant hydronephrosis presumably secondary to compression of the uretero-pelvic junction by the lower pole tumor. The post-operative course was uncomplicated. The pathologist's report was renal cell carcinoma, hydronephrosis and chronic pyelonephritis.

The pre-operative chest film when viewed in retrospect showed small, ill-defined shadows in both lung fields which did correspond to the marked metastatic lesions seen on the chest film of 5-1-58 (figure II-A). A repeat chest x-ray on 9-26-58 showed regression of the previously described pulmonary lesions (figure II-B). A chest film on 1-5-60 is negative (figure II-C).

The patient has gained weight and is doing very well with no clinical or x-ray evidence of metastases. It is now twenty-two months since nephrectomy. Although no

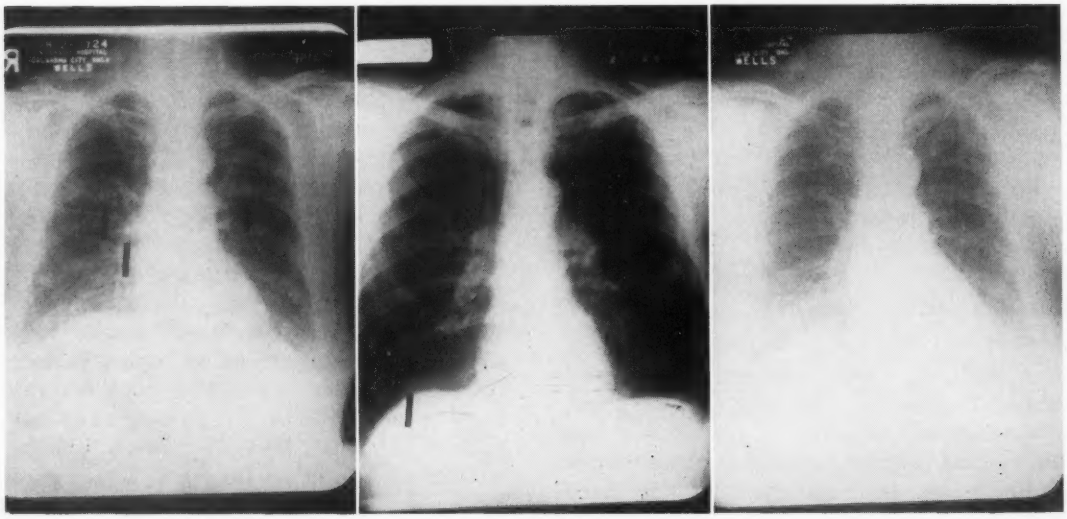

Figure II-A Figure II-B Figure II-C

Figure 2: Second case reported. (A) Pulmonary metastases 1 month post-operative. (B) Regressions beginning 3 months post-operative. (C) Complete regression 20 months post-operative.

pathological diagnosis was obtained to substantiate the diagnosis of pulmonary metastases, the chest films were typical of metastatic implants in the lungs.

Carcinoma is the commonest form of renal parenchymal tumor in the adult. It comprises one-fourth of renal tumors found at autopsy.[6] Its growth may be quite slow and symptoms may be due solely to the size of the tumor. Metastasis is usually by way of of the blood stream. Renal vein and caval extension is therefore common. Lungs, bones, and brain are the sites of predilection for metastases although all areas of the body may be involved. The slow development of metastases is not unusual with reports of ten, fifteen or more years occurring between nephrectomy and the appearance of metastases. Long term survival has been reported in the presence of widespread disease.[4] The ten year survival has been reported as ranging up to 27%.[7]

The spontaneous disappearance of many types of malignancies has occurred, some following the removal of the parent tumor, others having had no more than a biopsy for diagnostic purposes in the presence of a clinically inoperable carcinoma. Regression of renal carcinoma has been evidenced at autopsy.[2] Only a few cases of known spontaneous disappearance of metastases have been reported. Most of these have occurred following nephrectomy; however, the partial disappearance of metastases has been noted without removal of the parent tumor.[11] In some instances metastases have occurred post-nephrectomy only to regress.[3] Campbell[13] as well as Dodson[7] agree that the treatment for renal carcinoma is nephrectomy provided that not more than one discernible metastasis has occurred. The rare incidence of resolution of distant metastases after the removal of the primary tumor in itself does not justify routine nephrectomy at this time. Nephrectomy in cases with multiple metastases should still be considered only palliative and indicated to arrest hemorrhage, relieve pressure symptoms, and eradicate severe infection.

The cause of regression and disappearance of metastatic carcinoma is speculative. Theories propounding immunological factors in which the level of antibody production is sufficient to overcome the growth factor in the tumor are interesting and may furnish a clue to host immunity to cancer in general.

Summary

Two cases of carcinoma of the kidney have been presented in which spontaneous disappearance of metastatic pulmonary lesions have occurred following nephrectomy. Such a phenomenon is quite rare. The number of cases reported are insufficient to alter the current use of nephrectomy in the presence of widespread metastases for other than palliative therapy.

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PYELONEPHRITIS*

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PYELONEPHRITIS is a much discussed subject lately because of the (1) prevalence of the disease and (2) the disparity between the clinical and post-mortem findings.

As to frequency of occurrence, 9% in 4,425 autopsies were reported by Jackson and co-workers and 15% in 1,800 autopsies reported by Philadelphia workers.

The difference in ante-mortem diagnosis and post-mortem findings was noted by Longcope and Jay P. Sanford. Sanford further stated that overall incidence of asymptomatic bacteria fairly closely approximates the frequency with which pyelonephritis is observed at autopsy. The problem resolves itself into an earlier and more frequent recognition of the condition and more adequate treatment.

What is pyelonephritis? The disease is a bacterial invasion of the kidney causing multiple abscesses and later scarring of the interstitial tissue of the kidney with loss of tubular function and ultimately degeneration of the glomeruli.

Etiology

The etiology is hematogenous, lymphogenous, and ascending urogenous. The most common cause of the condition is obstruction or injury. Dr. Henry Weyrauch demonstrated that injection of bacilli into the blood stream of animals failed to cause pyelonephritis unless there was obstruction or injury to the kidney. The ureter on one side of 24 rabbits was partially obstructed and bacilli were injected directly into the blood stream. Twenty-three kidneys on the obstructed side showed acute pyelonephritis. Multiple abscesses followed later by streaking and scarring. Only six of the kidneys on the unobstructed side showed any infection and this cleared up in six days

Brewer in 1915, Mallory, Crane and Edwards in 1940, and Beeson, Rocha, and Guze in 1957, all demonstrated that in experimental animals, pyelonephritis does not develop following introduction of coliform bacilli into the urinary passages or into the

*Presented at the Annual Meeting of the Oklahoma State Medical Association, May 2, 1960.

blood stream unless there is obstruction or trauma.

The question of catheterization causing pyelonephritis is an important one. Most urologists who catheterize patients many times a day do not believe that the danger of producing pyelonephritis is as great as expressed by the bacteriologists. Jackson and Grieble in a recent report found that out of 58 patients catheterized 169 times less than 3% showed bacteria. Of those who do show bacteria it is doubtful whether a true pyelonephritis is caused since previous studies have indicated that bacteria introduced into the bladder do not produce pyelonephritis. Retention catheters and careless catheterization will certainly produce it.

Detection of Pyelonephritis

It is apparent that one of the chief reasons for widespread presence of the condition is the failure to recognize the condition when symptoms are minimal. The urinalysis is important and lately considerable discussion has taken place as to the best methods of collecting the specimen, and the nature of the examination. It is well established that bacteria are present in the urethra of the male and female and bacteria will be found in a high percent of normal patients. Bacteriologists have established however a *freshly* collected specimen by catheter or midstream collection which has less than 10,000 bacteria per milliliter is not significant, but those containing more do have a urinary infection. This method is difficult to establish as a routine and yet cases will be overlooked if it is not.

It is to be noted that the appearance of bacteria on a smear made from freshly voided or catheterized specimen indicates the presence of more than 10,000 bacteria per milliliter. This test is no more complicated than a blood count and could be incorporated in routine tests made on all patients admitted to the hospital or office. Fresh or refrigerated uncentrifuged voided specimen stained with methylene blue or even an unstained microscopic observation would immediately identify urinary infection. McDonald and Kass of Boston state that bacterial counts of the bladder urine were performed in 100 patients who later came to autopsy, and the bacterial counts were correlated with the pathological data. Active pyelonephritis was found in only 14 of the 40 patients with a 100,000 or more bacteria per milliliter of urine, which would suggest that the 26 others had the infection in the bladder or prostate and not in the kidney. The Aerobacter aerogenes was the predominating micro-organism found. Clinical diagnosis of active infection of the urinary tract was not made in 70% of cases in which active pyelonephritis occurred. In many of those in which the diagnosis was not suspected, extensive pyelonephritis, sufficient to be a major cause of death, was found.

All urinary infections are not pyelonephritis. The location of the infection requires more than a laboratory study. A thorough systematic urological examination is indicated in all persistent or recurrent urinary infections. Of course, the presence of bacteria in a specimen collected from the kidney definitely establishes the diagnosis but even a negative specimen does not rule it out since the patient may have been on antibiotics or in a regressive stage, therefore, it is well to wait for a flareup and make the examination prior to giving medication. Pyridium is an excellent drug to give in the interim.

Treatment

Since pyelonephritis is mostly caused by obstruction, the presence of obstruction must be detected and relieved. It involves many maneuvers to detect this but many can be done in the office and do not require elaborate instruments. To mention a few, a two glass test—old but valuable—first glass cloudy, second glass clear, indicates lower urinary infection in the male.

Pus found in prostatic secretion indicates prostatitis. I cannot detect prostatitis just feeling the gland.

The presence of residual urine determined simply by passing a catheter after voiding in male or female establishes the presence of an obstruction at the bladder neck. It is more important to know this than the risk involved in catheterization.

A cystogram taken at the same time by introducing four ounces of 4% potassium iodide and taking an x-ray after voiding attempt will establish loss of integrity of the ureterovesical valve-like structure (regurgitation). This is very important to do in infants and children, often revealing large hydroureters and pelvis.

Ureteropelvic obstructions are detected of course by ureteropyelograms or intravenous pyelograms. The latter is excellent as a screening but not definitive in most cases.

Bacterial Treatment

The continuing development of antimicrobal drugs has aided in the reduction of incidence of pyelonephritis, as noted by a recent study. Having been interested in such development since the introduction of mandelamine in 1928, I am convinced of the necessity of making the cultural identification of the organism and sensitivity tests in all recurrent and persistent infection. Our therapeutic agents are highly selective and require careful selection of the proper drug, but it also is highly rewarding.

Choice of Drug

The successful treatment depends on the localization of the disease, the demonstration and relief of obstruction, and the selection of the proper drug. Repeating cultures of urine is often necessary because of the changing flora due to emergence of resistant strains.

Our in vitro and in vivo studies would indicate the following choice of drugs.

ESCHERICHI COLI	CYCLINES - FURADANTIN - CHLOROMYCETIN
PROTEUS	KANTREX - FURADANTIN - GANTRISIN
AEROBACTER AEROGENES	KANTREX - CHLOROMYCETIN
PSEUDOMONAS	COLY-MYCIN - KANTREX - TERRAMYCIN
STAPHYLOCOCCUS and STREPTOCOCCUS	TAOMID - MADRIBON - KYNEX - PENICILLIN

Chronic Renal Papillary Necrosis

This condition attracted my interest when Nils Hutlengren (of the urological unit of Karolwisk Synkhuset) in Stockholm, Sweden, presented a review of 34 patients at the International Urological Association in 1958. We were familiar with the acute papillary necrosis in diabetics, but it is apparent that the chronic type often goes unrecognized since it runs a relatively mild course with lesser severity at long intervals. The diagnosis is best made by intravenous and retrograde pyelography. Only five of this series were diabetics. The papillae become infected, slough off, and lodge at times in the ureter causing hematuria and renal colic, simulating a stone. After the loss of the papilla the major calix become rounded out, the picture of chronic pyelonephritis.

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MEDICAL CENTER

Message from the Dean

In our efforts to develop an efficient and useful library at the University of Oklahoma Medical Center, we feel that our responsibility extends far beyond the confines of the Medical Center per se. Physicians practicing medicine in outlying areas of the state depend upon a university library to maintain permanent collections that will provide information of aid in the evaluation of current problems in their patients.

The Medical Center Library has accumulated holdings that make it one of the finest in the Southwest. The Library's permanent collection encompasses approximately 50,000 volumes, covering every area of the medical sciences. Volumes are being added at the rate of approximately 2,100 a year. In order to keep the contemporary journal collection as modern and as pertinent as possible, there are current subscriptions to approximately 1,100 periodicals. These appear in a number of languages and in translations.

Maintenance of an adequate library today is made complex by the appearance of research observations simultaneously in virtually every corner of the world. Further complications arise with the multiplicity of disciplines that should be served by a medical library.

A modern medical center's progress is nurtured by a varied group of interests. Students are the most important commodity of any university, and the primary responsibility of a state university medical center is the education of competent physicians. The physician is the most important person in providing the highest level of patient care, but the Medical Center Library must provide information also for others who assist in this task. Training programs are maintained for graduate students in the basic sciences and for students in such varied fields as nursing, medical technology, physical therapy, etc. Both basic and applied research occupies a position of importance at the Center and requires service from the Library. The list of allied medical sciences grows each year. Physics, chemistry and even mathematics are of ever increasing importance in medicine.

Thus the medical library serves all of the diverse areas of education, patient care and research. There must be permanent and up-to-date collections of textbooks and journals. Also necessary are clinical reports, recent advances in therapy, information as to the distribution of diseases, and the recent concepts in diagnosis and management of specific disease problems.

The Library offers every cooperation within its scope to all practicing physicians. Unfortunately, there is no reference service, but books, with the exception of reserve items, can be obtained by any physician on an inter-library loan obtained through a local public library. Inquiries by state physicians and medical scientists are welcomed.

There is no doubt that the University possesses a truly fine medical library. Such a library is but a catalogued accumulation of ideas and experiences, which achieve significance only when integrated into the human mind. A library without readers is as barren and as uninspiring as a classroom without students.

Mark R Everett

BIOLOGIC AMINES

Their Role in the Transmission of Nerve Impulses in the Central Nervous System

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ALTHOUGH the nature of the processes causing transmission of impulses from one neuron to the next in the peripheral nervous system has been relatively well delineated, such has not been the case with the central nervous system. In fact, previous to 1946, the general theory proposed for synaptic transmission of impulses in the central nervous system was that the electrical currents generated in presynaptic nerve endings were sufficient to elicit electrical changes in the post-synaptic membrane, thus causing excitation of the post-synaptic neuron. However, relatively recent evidence accumulated utilizing techniques for recording from within or in close proximity to the neuronal cell has indicated that transmission across central synapses occurs not by the spread of electrical currents, but via specific chemical substances which presynaptic nerve impulses cause to be liberated from the presynaptic nerve endings.[1,2,3,4,5,6,7] These substances then alter in some unknown fashion the ionic permeability of the post-synaptic membrane, thus allowing specific ionic fluxes to occur across this membrane. As shown by Hodgkin[8] and later more completely elucidated by other investigators,[9,10] these ionic fluxes will initiate electrical currents which cause transient depolarization or hyperpolarization of the post-synaptic membrane producing respectively an "excitatory" or "inhibitory" action by the transmitter substance.

At ganglionic sites in the autonomic nervous system, it has been adequately demonstrated that acetylcholine is the chemical substance synthesized in preganglionic nerve endings and, upon arrival of a presynaptic nerve impulse at these nerve terminals, this substance is released to cause stimulation (i.e., depolarization) of the post-synaptic cell.[11,12] Although it is now generally believed that synaptic transmission in the central nervous system is also via chemical mediators, the identification of and necessary supporting data (see below) for the responsible substances have not been as thoroughly detailed as for the transmitters in the peripheral nervous system.

In order to be considered as a chemical mediator of nerve impulses, it is generally accepted that a substance must fulfill certain criteria, such as:

(1) its synthesis from a precursor substance should be at a sufficient rate to correspond to the maximum number of impulses that can travel over the presynaptic

nerve in a given time, in order to prevent "fatiguability" of the system;

(2) its rate of metabolism should be rapid enough so that the amount of mediator released by one nerve impulse can be metabolized over a time period corresponding with the refractory period of the postsynaptic membrane;

(3) its localization should be restricted to certain neuronal areas; and

(4) injection of the proposed mediator substance to the synaptic area under examination should produce an effect similar to that produced by electrical stimulation of the presynaptic fiber.

As mentioned earlier, acetylcholine appears to fulfill these criteria in the peripheral nervous system and evidence accumulated over the last few years indicates that this substance probably serves as one of the chemical mediators in the spinal cord. [1, 4, 13, 14, 15, 16, 17, 18]

That acetylcholine does not represent the *only* mediator in the central nervous system is indicated by the work of Feldberg,[4,13] Crossland,[19] and Eccles.[15,20] Feldberg and coworkers showed, through chemical analysis of various areas of the cerebrospinal axis, that many areas contained sufficient concentrations of acetylcholine, its precursors, and the enzymes necessary for its metabolism to account for the possibility that acetylcholine does act as a mediator in these areas. However, they also found that there were many areas which were characterized by low acetylcholine content and correspondingly low choline acetylase (i.e., the enzyme necessary for the synthesis of acetylcholine) activity, and concluded from this that transmission of nerve impulses from these acetylcholine-poor neurones would be non-cholinergic in nature.

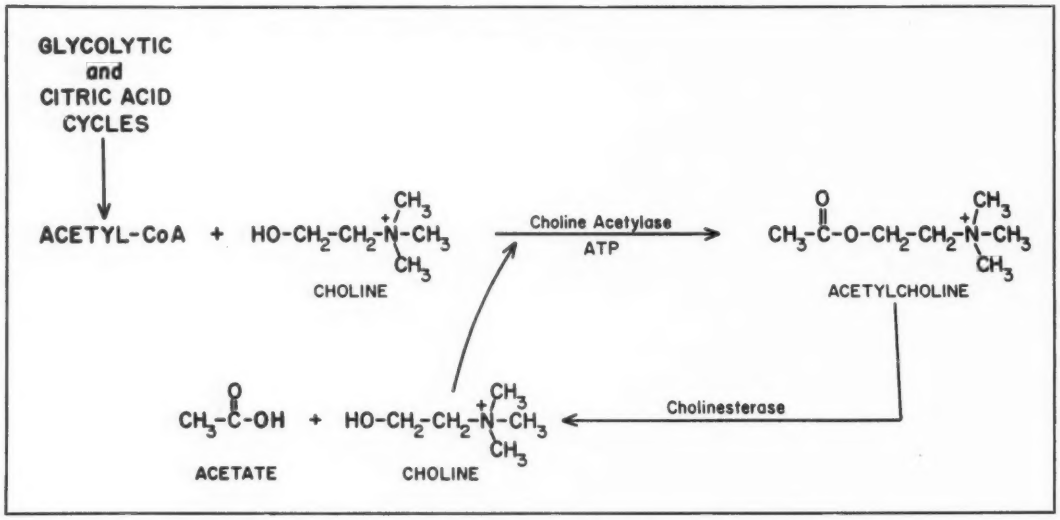
The nature of these non-cholinergic transmitters remains to be determined. However, investigations into this problem during the past five years have presented some interesting results and brought about some provocative theories. For instance, it has been demonstrated that norepinephrine and 3-hydroxytyramine, substances known to be synthesized in peripheral nerve endings, are present in extracts of various portions of the central nervous system.[21, 22, 23, 24] In addition, 5-hydroxytryptamine (serotonin), shown to be present in the enterochromaffin cells of the gastro-intestinal tract[25] and in sympathetic ganglia,[26] and gamma-aminobutyric acid, which has not as yet been shown to have a counterpart in peripheral tissues, have also been found in extracts of the central nervous system.[26, 27, 28, 29, 30, 31, 32, 33] However, in order that these substances can be considered as mediators of nerve impulses in the central nervous system, they should fulfill most, if not all, of the criteria outlined above.

Following identification of these substances in extracts of the central nervous system, an attempt at precise localization was carried out and it was found that norepinephrine, 3-hydroxytyramine, and 5-hydroxytryptamine are all highly concentrated in the brain stem and hypothalamus.[21, 23, 26, 34] 3-Hydroxytyramine is also found in high concentrations in the basal ganglia,[24,35] and 5-hydroxytryptamine is concentrated in the rhinencephalon, or limbic system.[34,36] Furthermore, the precursor substances and the enzymes necessary for the synthesis of these biological amines have also been found in brain extracts, all demonstrating approximate localizations to those of the amines.[26,34,37] It has also been found that the enzymes necessary for the destruction of the biological amines are present in brain, although in this case their distribution is fairly ubiquitous. With regard to gamma-aminobutyric acid (GABA), the highest concentrations have been found in the substantia nigra, dentate nucleus, and general diencephalic region, while smaller amounts have been found in the pons and medulla.[38] The concentration of GABA in the cerebral cortex is intermediate between these two values, a point which deserves special consideration since a great deal of theory has been attached to data obtained by local application of GABA to the cerebral cortex.[39,40]

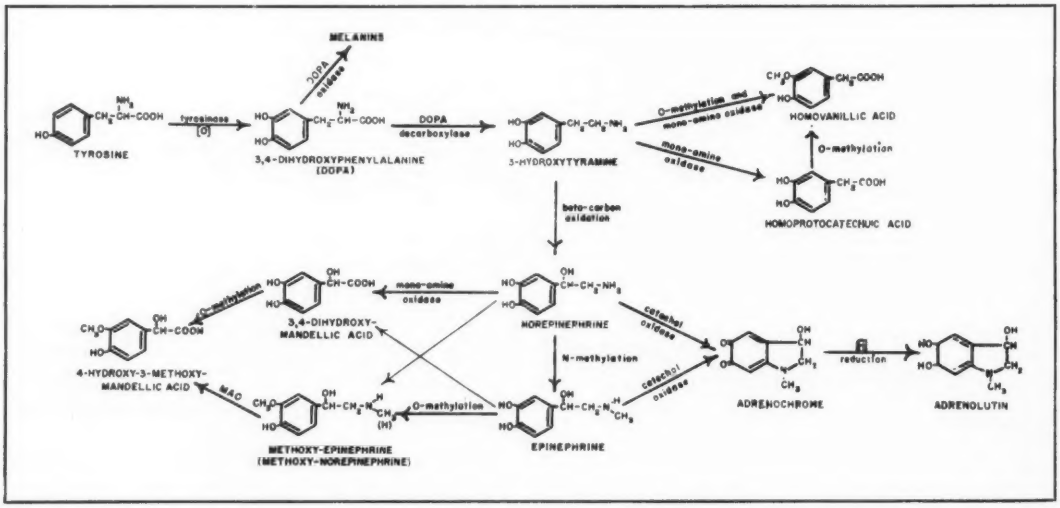
The other prerequisites which a substance must fulfill in order to be classed as a synaptic mediator of nerve impulses (i.e., the correlation of kinetics of metabolism with the

kinetics of ionic flux at synaptic areas, and the duplication of "effects" following direct application of the proposed mediators to the synaptic area in question) have been more difficult to study with regard to the substances in question. Although the pathways of synthesis and destruction of these substances have been clarified to a great extent (see figures), the actual kinetics of these metabolic steps have not been defined to the degree that has been accomplished with acetylcholine.

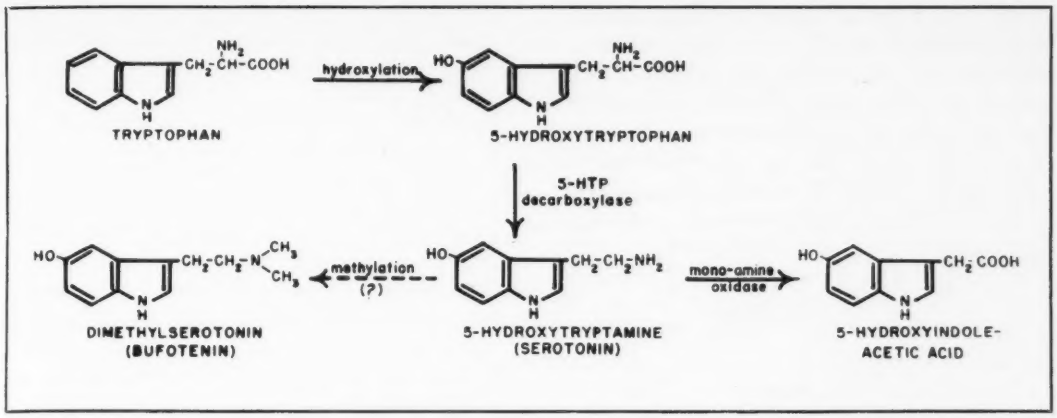
Since GABA does not represent one of the substances with which we are primarily concerned in this paper, it is mentioned only briefly. However, one cannot depreciate from the importance of GABA and its related amino acids in the central nervous system, since they represent the only known substances which are capable of exerting an "inhibitory" action on neuronal activity. Extensive reviews on GABA and its possible role in central nervous system activity have recently appeared and are available to the interested reader.[41,42]



PATHWAY FOR SYNTHESIS AND DESTRUCTION OF ACETYLCHOLINE
Figure 1



PATHWAYS FOR SYNTHESIS AND DESTRUCTION OF 3-HYDROXYTYRAMINE AND NOREPINEPRINE
Figure 2



PATHWAY FOR SYNTHESIS AND DESTRUCTION OF 5-HYDROXYTRYPTAMINE
Figure 3

With regard to norepinephrine, the primary pathway of synthesis is, as indicated in figure 2, probably via beta-carbon oxidation of 3-hydroxytyramine following decarboxylation from 3,4-dihydroxyphenylalanine (DOPA). Another pathway of formation of norepinephrine which has been shown to occur in animals is that of decarboxylation of 3,4-dihydroxyphenylserine. Although very little definitive work has appeared to date on either of these metabolic pathways, it appears that the main route of formation of norepinephrine is through the formation of 3-hydroxytyramine.[43] The metabolic step concerned with synthesis of norepinephrine from 3-hydroxytyramine is not well understood, and its complete definition would provide a major advance in solving many of the problems presented to investigators in this field.

If norepinephrine is to be considered as having a role in the brain as important as it obviously has in the periphery, the pathways of destruction of this substance should also be defined. In this regard, a great deal of effort has been expended in recent years attempting to clarify what has become a very complex problem. Previous to 1958, the predominant theory was that the important enzyme system responsible for norepinephrine metabolism was monoamine oxidase. However, a large body of evidence existed which did not appear to be in accord with this concept[44,45,46] and, in 1958, Axelrod and coworkers[47,48] demonstrated an enzyme system which appeared to be much more directly concerned with norepinephrine metabolism than was monoamine oxidase. The enzyme system was termed O-methyltransferase by these investigators because of its ability to methylate norepinephrine at the 3-hydroxy position, with consequent inactivation of the parent compound. The kinetics of this system have not been completely delineated, a point which must be considered before proper interpretation of the role of norepinephrine in the central nervous system can be made.

The precursor to norepinephrine, a 3-hydroxytyramine, is, as already mentioned, also a possible transmitter substance within the central nervous system. The possibility that this substance does not have a role in itself but merely acts as a precursor to norepinephrine can hardly be ascribed to since 3-hydroxytyramine has been found in high concentrations in areas which have relatively little norepinephrine (e.g., the basal ganglia). In fact, the possibility might be considered that the important substance in this metabolic scheme is indeed 3-hydroxytyramine, with norepinephrine simply serving as an alternate pathway of metabolism of this substance. The primary route of destruction of 3-hydroxytyramine is via the enzyme monoamine oxidase. In this respect, 3-hydroxytyramine represents an excellent substrate for the enzyme and, thus, the rate of metabolism of this substance can be presumed to be quite rapid although, again, the kinetics of this reaction have not been demonstrated definitely.

As indicated in figure 3, the principal pathways of synthesis and destruction of 5-hydroxytryptamine are relatively clear-cut as compared to those of the "catecholamines" (e.g., norepinephrine and 3-hydroxytyramine). Following the discovery of the natural occurrence of 5-hydroxytryptamine in mammalian organisms, it was shown that formation of this substance resulted from hydroxylation of the amino acid tryptophan followed by decarboxylation of the resultant 5-hydroxytryptophan. 5-Hydroxyindole formation is considered to be a minor pathway of tryptophan metabolism; therefore, the hydroxylation of tryptophan represents the rate-limiting step in the biosynthesis of 5-hydroxytryptamine. On the other hand, the conversion of 5-hydroxytryptophan to its amine occurs very rapidly in most central nervous system areas where 5-hydroxytryptamine is concentrated (e.g., hypothalamus, septum, caudate nucleus).[49,50]

5-Hydroxytryptamine represents one of the better substrates for monoamine oxidase and, consequently, is metabolized chiefly through this enzyme system.[51] The kinetics of 5-hydroxytryptamine metabolism have been clarified to a certain extent, although not completely. Udenfriend, et al. provided data showing that 5-hydroxytryptamine in brain has a half-life of approximately 1-3 hours.[34,50] Although this figure does not appear to be in accord with the theory that rapid synthesis and degradation of a mediator are necessary for repetitive neuronal activity to be carried on, Crossland[19,42] mentions other factors (e.g., diffusion away from the site of release) which must be taken into consideration when discussing possible mediator substances.

Recently, other pathways of metabolism of 5-hydroxytryptamine have been demonstrated. McIsaac and Page[52] have shown that 5-hydroxytryptamine is converted to N-acetyl-5-hydroxytryptamine *in vivo*. Axelrod, et al.[53] followed this report with evidence that, following formation of N-acetyl-5-hydroxytryptamine, an enzyme system termed hydroxyindole-O-methyltransferase acts on the metabolite described by McIsaac and Page to form the hormone melatonin (3-methoxy-N-acetyltryptamine). Axelrod and coworkers also mentioned that this enzyme system would act directly on 5-hydroxytryptamine.

Of what importance these latter enzyme systems are as compared to that of monoamine oxidase in the metabolism of 5-hydroxytryptamine in the human is a problem that remains to be investigated. However, it is important that one take into consideration all of the possible pathways of metabolism of a postulated transmitter substance, since these will determine the rate at which the "transmitter" is destroyed following its release from the presynaptic nerve ending, and may also lead to some interesting considerations regarding altered metabolic pathways and formation of new "active substances" following the use of certain enzyme inhibitors.

Although the discovery of the natural occurrence of norepinephrine, 3-hydroxytyramine and 5-hydroxytryptamine brought about a number of proposals regarding the possible roles of these substances in the brain,[54,55] it remained for Shore, et al.,[56] who were investigating the pharmacologic actions of the tranquilizing agent reserpine, to provide some foundation for these theories. These workers noted that the effects observed following injection of reserpine into mice could be duplicated by the injection of 5-hydroxytryptamine (e.g., depression of motor activity, miosis, fall in body temperature, potentiation of hexobarbital- or ethanol-induced hypnosis). Further investigation of the relationship between reserpine and 5-hydroxytryptamine brought out the fact that reserpine causes a marked increase in the excretion of the urinary metabolite of serotonin, 5-hydroxyindole acetic acid. Since the high concentrations of 5-hydroxytryptamine in the brain implies that this substance is in some way protected from enzymatic destruction, Shore and coworkers suggested that reserpine was exerting its action through release of 5-hydroxytryptamine from its normally bound form, thus allowing the 5-hydroxytryptamine to act on "sensitive receptors," with subsequent metabolism via monoamine oxidase.

Later work provided evidence that reserpine not only released 5-hydroxytryptamine

in the brain but also released norepinephrine and 3-hydroxytyramine from their respective areas of concentration.[57,58]

Regarding the brain concentrations of acetylcholine, reserpine has been shown to produce a significant increase of this substance in all areas of the brain with the exception of the hippocampus, where a decrease in concentration of acetylcholine was noted.[59] Although this finding has not been dealt with in other reviews, it should be considered when one discusses the possible mechanisms through which reserpine exerts its pharmacologic effect. No studies have been reported to date on possible alterations in brain concentration of GABA with reserpine.

Concerning the question of the roles of these substances in the brain, the original reports of Shore, et al., and the more recent data indicating an effect of reserpine on catecholamine concentration in the brain, allow two possible interpretations: (1) that the release and subsequent action of 5-hydroxytryptamine on central nervous system "receptors" is responsible for the predominant parasympathomimetic effects observed with reserpine, or (2) that the release by reserpine of the stored "biologic amines" and their subsequent enzymatic destruction eliminates an "antiparasympathetic" system (e.g., sympathetic) by removing the substances necessary for maintenance of normal function of this system. The latter would in effect result in "uninhibited" parasympathetic activity, which is apparently cologic actions of reserpine

As mentioned previously, the demonstration by Shore, et al. (op. cit.) that injection of 5-hydroxytryptamine produced pharmacologic activity similar to that obtained by injection of reserpine suggested to these investigators that 5-hydroxytryptamine may serve as a "mediator" within the central parasympathetic nervous system, or as a "modulator" of the activity of the central sympathetic nervous system. Included in this theory was the thought that norepinephrine in the central nervous system serves the same function as in the periphery (i.e., mediation of sympathetic nervous system activity). However, the data demonstrating that reserpine causes release of not only 5-hydroxytryptamine but also norepinephrine and 3-hydroxytyramine from their brain storage sites provides evidence sufficient to question the original theory of Shore and Brodie, and has led in some quarters to the belief that the action of reserpine on central nervous system biologic amines is only indirectly related, if at all, to the pharmacologic actions of reserpine.

Although this controversy has not been resolved to date, evidence has accumulated in recent years to indicate that these normally occurring biologic amines may indeed have a role in brain function but that consideration must be given not only to the biochemical aspects of these systems but, also, to the neuroanatomic and neurophysiologic correlates which must be incorporated for proper interpretation of the role of these amines as based on the pharmacologic actions of reserpine and closely related substances.

Following the original observations and postulates of Shore, et al., it was found that systemic injections of 5-hydroxytryptamine, even in extremely high doses, produced little, if any, increase in the brain concentrations of this substance.[49] If, however, the precursor of 5-hydroxytryptamine (i.e., 5-hydroxytryptophan) was injected into the systemic circulation, an increase in the brain concentrations of 5-hydroxytryptamine could be achieved. In addition, it was noted that injection of 5-hydroxytryptophan (5-HTP) produced behavioral excitation of the animal dominated by signs of sympathetic stimulation, and not the behavioral depression characterized by parasympathetic activity as seen with reserpine. Furthermore, if the injection of 5-HTP was preceded by an injection of a substance which inhibits monoamine oxidase (i.e., the enzyme believed to be primarily responsible for the metabolism of 5-hydroxytryptamine), the dose required of 5-HTP to produce behavioral excitation could be reduced to one-tenth the original dose, and the behavioral excitation and stimulation of the sympathetic nervous system were much more prominent.[49,50]

Other investigators found that injection of norepinephrine caused very little, if any,

increase in the brain concentrations of this substance. However, if 3-hydroxytyramine or dihydroxyphenylalanine (i.e., the precursor to 3-hydroxytyramine and norepinephrine; see metabolism chart) was injected, an increase in the brain concentrations of both 3-hydroxytyramine and norepinephrine was observed, together with behavioral excitation of the animal and sympathetic stimulation. Again, if the injection of either 3-hydroxytyramine or dihydroxyphenylalanine was preceded by an injection of monoamine oxidase inhibitor, the dose of either substance required to produce the behavioral effects was reduced and the stimulation was accentuated.[23,60,61]

Based on this latter data, the second interpretation of the role of these biogenic amines in the central nervous system appears to be more feasible than the one originally proposed by Shore and Brodie. On the basis of the evidence accumulated to date, one might assume that norepinephrine and 3-hydroxytyramine in the central nervous system have some intimate role in the regulation of the sympathetic portion of the central nervous system. With regard to 5-hydroxytryptamine, the picture is somewhat more complex. Available data indicate that this substance also causes stimulation of the sympathetic portion of the central nervous system. Recent evidence concerning the effects of 5-hydroxytryptamine in the peripheral nervous system[62,63] suggests a possible "modulator" role in the cervical sympathetic ganglion. Whether this substance serves a similar role in the central nervous system (i.e., a modulator of parasympathetic activity) or whether it represents a third substance in the sympathetic portion of the central nervous system (i.e., in addition to 3-hydroxytyramine and norepinephrine), or whether these two "different" roles are actually one and the same thing is yet to be learned.

Woolley has proposed an interesting theory for the role of 5-hydroxytryptamine in the central nervous system which, unlike the other postulates, does not link 5-hydroxytryptamine directly to the transmission of nerve impulses.[64] Rather, Woolley suggests, on the basis of evidence obtained utilizing tissue cultures of oligodendroglial cells, that 5-hydroxytryptamine may act to control the continuous pulsations of the oligodendroglial cells and thereby regulate the proposed function of these structures, that being one of transporting nutrients from the capillaries to the neurons. Although this theory presents a different approach to studies of the role of substances normally found in the central nervous system, one hesitates to consider this as the most important role of 5-hydroxytryptamine in the brain since, if it were, one would expect to find the 5-hydroxytryptamine more ubiquitously distributed in the central nervous system instead of the well-documented relatively limited distribution in the brain stem, hypothalamus, and rhinencephalon.

With regard to the distribution of the various biologic amines in the brain, this becomes an important consideration when attempting to discuss the actions of a pharmacologic agent which alters the concentration of one or more of the brain amines. For instance, based on the information presented, it is interesting to consider the various pharmacologic actions of reserpine, chlorpromazine, and the monoamine oxidase inhibitors with regard to the neuroanatomic systems discussed.

Reserpine, as stated previously, is known to evoke parasympathetic activity when administered to animals or man. One of the more troublesome side effects which appears with reserpine therapy in humans is the incidence of a parkinsonian-like state.[65] Although it is general knowledge that anticholinergic substances (e.g., Atropine) are excellent antiparkinsonian agents and, conversely, one might feel that it would be natural to expect a pharmacologic agent provoking central parasympathetic activity to produce a parkinsonian-like state, the mechanisms responsible for these two diametrically opposed actions are not at all clear-cut. However, it is interesting to speculate that the parkinsonian-like state induced by reserpine may be due to the depletion of 3-hydroxytyramine from the basal ganglia. In fact, one group of investigators[66] has indeed utilized this relationship as a theory for the basal ganglia-like defect produced by reser-

pine, and has suggested that 3-hydroxytyramine may play an intimate role in the normal functioning of the basal ganglia.[35] Even at this, one cannot say at the present time that depletion of amines in other areas of the brain by reserpine does not aid in the development of the parkinsonian state, since the neuronal interactions between the rhinencephalon and the pyramidal and extrapyramidal system have not as yet been established.** That alterations of normal activity in the brain stem may lend to the production of a parkinsonian–like state is well-known on the basis of neurophysiologic studies demonstrating production of parkinsonian-like tremors in monkeys by stimulation and ablation of various areas in the brain stem.[67,68]

With regard to the calming action of reserpine in highly agitated persons, it is now generally accepted that the rhinencephalon in man is an area associated with the regulation of emotional levels. It is also known that reserpine produces a profound change in the electrical activity of the limbic system (rhinencephalon).[70] Whether it is possible to relate the alterations in neuronal activity in parts of the rhinecephalon to depletion of the 5-hydroxytryptamine in this area or to a change in the acetylcholine concentration, and whether these phenomena are related to the calming effect of reserpine in the agitated patient are problems that remain to be solved. Again, the effect of reserpine on the biologic amine level in the hypothalamus and brain stem may also be related to the "tranquilizing" effect of this agent.

Reserpine has also been utilized to a large extent in recent years in the treatment of hypertensive states, and much of the literature on this subject suggests that this depressor effect is due primarily to the central action of the agent. Although the action of reserpine on the brain may aid in the treatment of the hypertensive patient, is now considered that the peripheral depletion of adrenergic mediator (similar to that produced by reserpine in the central nervous system) is probably of more importance in producing the depressor effect. However, as mentioned, the central actions of the drug may augment the peripheral actions, in addition to lending a calming effect on the hypertensive individual.

Although it is relatively easy to speculate on the mechanisms of the various reserpine-induced states, the problem becomes more difficult when one approaches the possible mechanisms of chlorpromazine action. It has been amply demonstrated that chlorpromazine has a peripheral anti-adrenergic action and, if one might be allowed to extrapolate this action to the central nervous system, it might be speculated that this action of chlorpromazine would produce, in the end, an effect similar to that of reserpine, although the basic mechanisms behind the "anti-adrenergic" effects of these two agents would be quite different. The parkinsonian-like state induced by chlorpromazine may be due to a competitive inhibition at the receptor level of 3-hydroxytyramine in the basal ganglia and/or an inhibition of amine activity in the brain stem.

On the other side of the pharmacologic spectrum, the monoamine oxidase inhibitors are central nervous system stimulants which, instead of antagonizing biologic amine activity in the brain, act to potentiate the actions of the naturally occurring substances by preventing their metabolism. Although these agents are relatively new additions to the field of pharmacology and the physician's armamentarium, the concepts regarding their mechanisms of action and the correlation of this action with the pharmacologic effects produced by the agents are somewhat easier to integrate than with chlorpromazine. For instance, the mood elevation observed with these compounds in depressed patients may possibly be correlated with an increase in the concentration of 5-hydroxytryptamine in the rhinencephalon. There is considerable discussion at the present time regarding the question of whether the pharmacologic and behavioral effects produced by the monoamine oxidase inhibitors are correlated with an increase in the brain concentrations of norepinephrine or the rise in concentration of 5-hydroxytryptamine.[71,72] At present, this problem has not been re-

**While this paper was in preparation, Adey, et al.[69] presented data indicating that the neuronal interactions between the rhinencephalon and basal ganglion may indeed have an influence on tremors induced in monkeys by stimulation of the brain stem.

solved but this may be due to the fact that the pharmacologic behavioral studies have been very gross measurements and perhaps more definitive measurements are required to establish a correlation between the rate of increase of biologic amine level in the brain and the onset of physiologic changes.

In this review no attempt has been made to present data on all of the naturally occurring substances in the central nervous system. For instance, histamine and adenosinetriphosphate have also been found in extracts of brain tissue and have been considered by some investigators[42] to have roles in regulating central nervous system activity. An attempt has only been made to present a basic concept regarding a controversial problem in this field. It may well be that once an integration is made between the biochemic localization of various substances in the central nervous system and the neuronal interactions of the brain stem, hypothalamus, rhinencephalon, basal ganglia, and cortical structures, many of the problems involving mechanism of drug action on the central nervous system will fall into place and roles will be assigned the now-controversial biologic amines of the brain.

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ABSTRACTS

The Influence of Boundary Conditions on The Amplitude of R and Other Accession Potentials in Leads from the Ventricular Wall

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Circulation Research, 8: 82-87, January 1960

The effects produced by alterations in the boundary conditions at the epicardial and endocardial surfaces on ventricular accession potentials in the heart in situ were studied in 13 dogs. Conductivity of the boundary media at the two surfaces was changed by opening and closing the chest, placing a layer of saline-moistened gauze over the heart's surface, filling the thorax with saline-Hartman's solution, and injecting carbon dioxide into the ventricular cavities after intramural electrodes had been positioned. Effects on tangential components were studied after extrasystolic stimulation of the contralateral ventricle and after right bundle branch block.

The amplitude of R at all points in the ventricular wall from endocardium to epicardium was decreased by 70 to 100 per cent by any measure which increased the conductivity of the medium surrounding the heart or which decreased the conductivity of the medium in the ventricular cavity. At times the R became a notch on the downstroke of S, particularly in the inner one-half of the wall. Decreases in the amplitude of R of tangential components appeared to be less than those obtained for radial components. Measurements at the surface of the volume conductor were not made, but the potential at F was halved by filling the open chest with saline.

The progression in the amplitude of R from the endocardial to the epicardial surface of the ventricle encountered experimentally is effected, at least in part, by the different conductivities of intracavity blood, myocardium, and the medium surrounding the heart. Closing the chest and evacuating the pneumothorax after positioning the electrodes presumably gave intraventricular potentials approximating those that exist normally.

It is clear that attempts to evaluate intracardiac accession potentials must take into consideration the influence of the conductivities of the boundary media interior and exterior to the wall of the heart.

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Effect of N-(1-Methyl-2,3,di-p-chlorophenylpropyl) Maleamic Acid (Benzmalecene) on Serum Lipids and Lipoproteins

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Soc. for Exp. Biol. and Med. **103:** 302-304, 1960

Administration of Benzmalecene alters serum lipids as follows: 1) decreases serum total and esterified cholesterol concentrations; 2) decreases cholesterol and phospholipid content of α (density $>$ 1.063 g/ml) and β (density $>$ 1.019 $<$ 1.063 g/ml) lipoproteins; 3) increases serum phospholipid and triglyceride concentrations; 4) increases, both absolutely and relatively, cholesterol and phospholipid content of lipoproteins of density $<$ 1.019 g/ml; and, 5) decreases C/P ratio in whole serum and in α and β lipoproteins. The compound possesses extraordinary lipid-altering properties which warrant further investigation. However, the increase in low density lipoprotein lipids may be an undesirable effect since low density lipoproteins may play a role in atherogenesis.

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Neonatal Pediatrics
Part V: The Role of Injection

HARRIS D. RILEY, Jr.*

American Practitioner and Digest of Treatment **11:** 465-470, June 1960

The need for a concentrated attack to lower neonatal mortality is quite evident. More deaths occur during the first four weeks of life than in the entire period from one month through 14 years. In 1955, in the United States the neonatal (first 28 days of life) mortality rate was 19.1 per 1000 live births whereas the rate for the next 11 months was 7.3 per 1000 live births and only 0.7 per 1000 live births from ages one through 14 years. In addition, probably more than 500,000 fetal deaths occur annually. In reviewing available data on causes of death in this age period in order to plan such an attack it is readily apparent in any carefully studied series of neonatal deaths, those due to infection make up a significant percentage. The exact frequency with which infection is a primary cause of neonatal mortality is not clear, the incidence in various series based on postmortem findings ranging from 10 to 15 per cent. Infection is a contributory cause of death in an even higher percentage. However, its importance is often overlooked especially in hospitals in which few autopsies on fetal and neonatal deaths are performed. This means that infection is often not diagnosed while the infant is alive. All of the problems relating to infection are even more serious in the premature infant.

*Professor of Pediatrics.

Quantitation and Morphology of Equine Abortion Virus in Hamsters

D. GORDON SHARP and E. C. BRACKEN*

Virology **10:** 419-431, 1960

Infection of hamsters with equine abortion virus results in a fulminating disease that terminates fatally in 18-21 hours. In the latter half of this infection, the plasma and extracts of liver tissue contain particles in large numbers that the authors believe are the virus elementary bodies. By electron microscopy, the particles are round with average diameter of 170mμ; many have a tail of about 50-mμ width and variable length up to 340mμ. They first appear about nine hours after infection and increase rapidly in number to 10 per gram in the terminal stages. The particles appear and increase in parallel with the infectious titer of the tissues involved. Their number is consistent with the frequency of their appearance in electron micrographs of thin tissue sections.

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The Natural History of Hypertension

JAMES A. HAGANS* and ALBERT A. BRUST**

The American Journal of Medicine **28:** 905-912, 1960

1. Two hundred and twelve patients with various forms of hypertension were classified according to changes in their optic fundi and the degree of target organ involvement. They were followed up for an average period of four years, the shortest follow-up interval being two years for any one patient. During the period of observation the patients received no antihypertensive drug therapy but were given more general medical treatment as indicated.

2. Those with essential hypertension showed a strikingly different life expectancy, depending upon the presence or absence of sustained uremia.

3. In the absence of sustained uremia, the degree of change in the optic fundi and the severity of other target organ involvement seemed most markedly to influence the patient's life expectancy.

4. Those with elevated diastolic blood pressures, irrespective of the degree of elevation, who manifested benign changes in the optic fundi and no evidence of target organ decompensation enjoyed a life expectancy approximating that of the general population for a similar age group.

5. In view of these findings and the fact that there is often marked lability in the diastolic blood pressures in patients in all stages of severity of essential hypertensive disease, evaluation of drug therapy should be based upon the degree of target organ involvement and optic fundal changes rather than upon the degree of elevation of the diastolic blood pressure.

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Special Articles

How Public Opinion Can Socialize A Profession or Industry

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THE POINT of this address is simple: Whatever you want for the future of American medicine, you can have.

Although you now face socialized medicine for the aged, a vicious attack on the pharmaceutical industry, and trade-union agitation for a totally socialized medical practice, I repeat:

Whatever you want for the future of American medicine, you can have.

The advances in communications theory, in attitude measurement, in social theory, and in the scope of our communications network have given you this option. There is today no hidden or unsolvable problem which prevents organized medicine from achieving its highest goals. None, whatsoever. The American people will render a fair-minded decision on your profession, if they are given *all* the alternatives and enough information.

Instead of presenting statistical information on current public attitudes at this luncheon, it seemed more appropriate that I generalize from the research and illustrate some of the difficult consequences of poor public relations.

It is likely that British experience will be repeated here and that *your* life as a doctor will go something like this first chapter of Philip Auld's book, "Honour A Physician."*

Auld is the pseudonym for a British G. P. who wrote down his actual experiences under ten years of the National Health Service. This was the beginning, in 1948:

"England, 1948—

"Dr. Charles Gatwood started his middle-aged car and backed cautiously through the gate. Pausing to inspect the road, he became aware of Alderman Sydney Carb's untimely presence, hand upraised to signal a desire for converse. He cursed beneath his breath, looked pointedly at his watch and applied the handbrake.

" 'Ah, Doctor, I've been wanting to have a word with you. . .'

" 'Afraid I can't stop, Mr. Carb. . .'

" '*Alderman* Carb, *if* you don't mind!'

"Gatewood grinned. 'I don't mind a bit.'

" The alderman frowned, then allowed his face to clear and passed to the next business. 'What I was going to say was that we've got you in after all.' He neighed triumphantly.

"Gatewood looked puzzled. 'I don't understand. Got me in what?' He switched off the engine.

Given before the Annual Meeting of the Oklahoma State Medical Association, May 3, 1960.

*Hollis and Carter Limited, 25 Ashley Place, London, S.W. 1, England. Permission to quote granted by Philip Auld.

"' The doctors, I mean. In the Health Service. I didn't think you'd resist for long.'

"'Oh, I see,' said Gatwood thoughtfully. 'You've got us in. You have a happy way of putting it, Alderman. You make it sound as though we've been trapped.'

"'I reckon you can say that again!' His snicker was shattered by an explosive cough into Gatwood's face. He recovered his breath and proceeded without apology: 'You doctors have had the public under your thumbs long enough. Now the boot's going to be on the other foot. . . . I was saying to Fred only yesterday—the Mayor, you know—I said to him, I said, Fred, I said, now we can put them clever fellows where they belong, I said. They're going to be paid by the people and they'll be answerable to the people, I said.'

"'I thought we were always paid by the people. When we were paid, that is. Look here, I'm not sure what you're getting at, with your thumbs and your boots, but you make it all sound very unpleasant. Do you mean we're going to be sorry we entered the National Health Service? Is that what you're looking forward to?'

"'Now I wouldn't say that, Doctor. No, I wouldn't like to go so far as to say that. No. But there'll be changes, y'know. Bound to be. No use blinking the fact.'

"'What sort of changes?'

"'Well, for one thing, the public are going to see to it that you chaps provide the sort of service they want and what's more, when and where they want it. Instead of acting superior to the community as you've always done, now you're an equal part of it.' His eyes gleamed with jubilant anticipation.

"'You know, I'd always thought we served the community pretty well, on the whole. As for being an equal part of it, very few of the other parts seem to be particularly equal, so I don't know where you intend to fit us in. In any case, I shouldn't push the idea too hard, or we might take you at your word.'

"Carb looked blank. 'How d'you mean, Doctor?'

"'We might decide to work the same hours as the rest of our equals, for example.'

"The aldermanic brow furrowed horizontally with amazement. 'But your vocation, Doctor! What about your vocation?'

"Gatewood smiled. 'You're the one who wants the changes. If you insist that there's to be nothing to choose between doctors and the rest of the community, you must expect the same sense of vocation as you get from other workers, which is precious dam' little when you see them from my side of the desk. No use blinking the fact, as you say, Alderman.'

"The lower furrows became vertical with annoyance. 'Now then, Doctor, I'm not having you run down the working man. He's . . .'

"Gatewood interrupted him impatiently: 'Nobody's running down the working man. He's usually a good chap, and I like looking after him, but he varies a bit, like everyone else. If you spent a few Monday mornings in my surgery you'd know what I mean. The point is that *he's* fussy about the number of hours *he* works, and *you* apparently want doctors to be the same.'

"'The working man does a fair day's work for a fair day's pay. He's the wealth of the country, and . . .'

"Gatewood cut in again before the clinches got out of control. 'There's nothing you can tell me about the working man, Alderman. You don't see him with his pants down as I do. At least, I hope not.'"

Britain presents a case history of an association leadership and a profession that lost a public relations war: free medicine lost first, in the attitudes of the British public, next in their own medical society's accepted economic philosophy and finally among the doctors themselves in their own councils. Let's listen in to a local doctor group meeting in 1957 when a doctor strike to force the "Spens" Agreement for higher pay was in the wind—this group would correspond to a county medical society meeting in America. In the text, Dr. Brundle is the

group's liaison with the British Medical Association. Here they are in session in 1957:

"Dr. Suffolk declared: 'The worst thing that could happen would be for the government to cave in and give us more cash. Then we'd never get the boys to fight for changes in the service. I'm only supporting the withdrawal because it gives us an opportunity to start again on a new basis. I wouldn't be prepared to resign on financial grounds alone.'

"Brundle, the BMA man said: 'We are adamant—we shall have Spens or nothing.'

" 'I don't see them coughing up our notion of Spens,' said Suffolk with satisfaction, so we've a fair chance of *war* being declared. If it doesn't pan out that way, Mary and I have made up our minds to emigrate. We're thinking of Australia.'

"Farndon said, 'My wife fancies Canada.'

" 'Wait until we've compelled the Government to implement Spens,' Brundle advised them. 'There'll be less talk of emigration when our finances are in a healthier state.'

"Suffolk shook his head. 'No, Horace. We won't be going because of the money. But I'm not getting into an argument with you about it—you've never admitted that there's anything wrong with the service apart from the pay. You'll wait till the capitation fee has destroyed general practice before you admit there's anything wrong with it. The Australians won't have capitation medicine at any price; that's why we're thinking of going there.'

" 'I'm not so sure that a salaried service wouldn't solve most of our difficulties,' remarked Courtham.

"Brundle said severely: 'We will never submit to a salaried service.'

" 'Don't see why not,' said Courtham. 'What have we got to lose?'

" 'Our freedom,' replied Brundle simply.

" 'We've lost that already,' Courtham retorted. 'I'm in favour of going the whole hog. My list is below average—I'd probably get more if we all got the same.'

" 'But you'd have no *scope* to rise above that.'

" 'I've no scope now. My list hasn't changed in three years. And I'd like to knock off at teatime—I've had enough of evening surgeries and night calls.'

" 'G.P.'s can't work office hours,' said Gatwood gloomily.

" 'Why not? The night rota works perfectly well. The only difference'd be that when we're on at night we shouldn't be on during the day too. The evening surgery's an utter farce—why the blazes shouldn't they get up at the right time and attend in the morning?'

"Gatewood said: 'A salaried service would wreck the doctor-patient relationship completely. It's bad enough as it is. We'd have to accept clinical directives from Whitehall. There'd be no free choice of any sort.'

" 'So what? I'd rather accept directives from Whitehall than from the insolent scum who order me around at the moment. I'd give a lot to be able to tell some of my regulars what I think of 'em without any fears about my income. Think of it—no arguments about prescriptions and certificates! I'd give 'em time off! What this country needs is a spell of regimental doctoring—then we might be able to pay our way.'

" 'It'd be a pity to wish regimental doctoring onto the decent types merely to control the rats,' said Gatwood.

" 'The decent ones'd be better off—we'd be able to give them more time. It's the others who're making doctors emigrate.'

"It became apparent that playing with words in an attempt to dispose of the legality and durability of the Spens obligation had served only to incense the profession, and the Government were obliged to announce a new device in the shape of a Royal Commission to decide the appropriate level of doctors' remuneration. The resentment of the profession reached unprecedented heights. The BMA clung more desperately than ever to Spens.

" 'The Royal Commission is a trick to replace Spens by something cheaper!' Brundle raved. 'The profession is not represented on it. The Government will only implement its

findings if they're low enough. We must not give evidence—once we have discussed an alternative to Spens we have agreed that Spens is no longer binding.'

"The announcement of a five per cent interim award pending the report of the Commission was initially condemned as an affront. But even five per cent was better than nothing, and was too tantalizing to be spurned for long. By the beginning of the holiday season the medical profession had snatched at it and meekly, albeit at times noisily, agreed to cooperate with the Royal Commission.

"A wave of disgust and defeatism swept through the doctors of Britain, but Brundle unquestioningly adopted the new BMA policy. 'We are preparing incontrovertible evidence for the Royal Commission,' he told the Group. 'We shall insist on Spens in full.'

"The members moaned. Ibworth said: 'Two weeks ago you told us that our entire future depended on having *nothing* to do with the Royal Commission. Now you're preparing evidence *for* it. I simply don't know how you dare to show your face in public after your latest somersault.'

" 'Let's demand a Royal Commission of doctors to decide the pay of Ministers of Health,' suggested Voce.

"Ibworth continued, 'They're going to decide whereabouts in the social scale we deserve to be put. We'll find ourselves just above building labourers and below sanitary inspectors. Then there'll be a big BMA meeting in London and we'll cave in as usual, after the stock wavering and vocation speeches from the Reds. And you'll come up smiling with a bunch of reasons why Spens could no longer be operated.'

" 'No, Terence, Spens is our sheet-anchor.'

" 'Look, Horace,' urged Ibworth. 'Try to be realistic, just for once. If the Government had the slightest intention of having anything more to do with Spens d'you think they'd have bothered to appoint a Royal Commission? Spens is as dead as the Dodo.'

"Farndon said: 'It's quite obvious that if we're ever going to get a square deal we've got to take the NHS out of the hands of the party politicians. They'll never keep a promise unless there's an election at stake, and we'll never fight them successfully until we swallow our pride and come down to trade-union level. It's a damned shame—five minutes of real leadership and we'd have won.'

" 'I've had enough of it all,' said Ibworth. 'I shall retire next July, as soon as I can draw my superannuation.'

" 'You'll be too young,' Brundle pointed out.

" 'If I can't organize a certificate for myself for a change I've learnt nothing in all these years. I was prepared to hang on as long as there was some hope of improving the service, but now I'll get out as soon as I can. Not that I can afford to retire, but I may be able to get some part-time clinic work to help out.'

" 'You'll have your practice compensation,' Brundle reminded him.

"Ibworth said bitterly: 'My compensation's worth a third of what it was. That's another damned swindle the BMA let us in for. You and your pals have made a pretty thorough mess of us, Horace: diminishing capital, diminishing income, diminishing status, and a job we no longer enjoy. You've a great deal to answer for.'

" 'The youngsters are emigrating in droves,' said Gatwood. 'My assistant told me this evening that he's decided to try his luck in New Zealand. He's sailing in a month, too. I remember you telling us in 1948, Brundle, that we'd be helping the young men to get established in practice if we gave up the right to buy and sell goodwill. I know you'd told us the opposite a week or two earlier, but that was your last word on the subject. *What* a damned trick it turned out to be! The boys find it ten times as difficult to get into practice now as it was before 1948. Young Binckham's applied for scores of vacancies; without any luck. In the old days he could have walked into the first practice he fancied.'

" 'But, he'd have to put himself in debt,' said Brundle.

" 'He'd be earning enough to pay it off.' re-

torted Gatwood. 'That sort of debt does no harm—it's no worse than buying a house on a mortgage; it gives a man something to work for. Anyhow, this Royal Commission business has convinced him that there's *no security in G.P.* in this country, so he's really rather pleased he hasn't planted any roots. I think he'd have emigrated in any case—dishing out benefits isn't his idea of a doctor's work . .' ."

For you young members of the senior class at the University of Oklahoma School of Medicine, let me give you some sense of what faces your compatriots in England. Here is a hiring interview as described by Philip Auld in his book:

"Dr. Gatwood interviewed four prospective assistants before Dr. Arthur Rodley presented the requisite combination of military service, adequate post-graduate hospital experience, intelligible familiarity with the English language, clean finger-nails and evidence of a recent shave. The young man continued to impress him favourably as the interview progressed, betraying an unusual interest in the work of the practice and revealing no curiosity regarding the prospect of off-duty time.

" 'Are you married?' asked Gatwood.

" 'Yes, sir.'

" 'Any offspring?'

" 'One confirmed; one possible.' Rodley had been a fighter pilot.

" 'Good. The job's yours. You've done no G.P., I take it.'

" 'No, none. I must admit we get a pretty jaundiced view of it from the hospital angle, but I've always wanted to be a G.P. and I hope one can avoid some of the things that seem to be going on.' Rodley spoke with diffidence, feeling his way.

" 'What sort of things?

" 'Well, for example, a lot of G.P.s seem to send patients up without even bothering to examine them.'

"There's nothing to stop you from examining them if you want to. It's a bit of an effort sometimes, when you're packed out with rubbish, but there's certainly no excuse for sending anyone to a hospital without working out the case first.'

" 'What's the patient's attitude like, generally?'

" 'Mostly quite reasonable. A few of them take advantage of the fact that there's *no penalty for bad behaviour*, but it's up to us to keep them in their place. Some of them can't resist trying out their little dodges, like buttonholing one in the street for precriptions or alfresco consultations, but if you treat 'em like dirt they don't try it again. You'll have no trouble with the majority, but the NHS has made some patients pretty cocky, and they're the ones who've got the Regulations buttoned up, so its safest to *regard every patient as a potential enemy*—then you're less likely to drop any bricks.'

" 'That sounds a trifle grim!'

" 'I probably make it sound worse than it really is. It's only a small minority who make life unpleasant, but unfortunately they're the devils who take up most of our time. You'll soon get to know them—my notes are quite revealing, you'll find.'

" 'Good.'

" 'The problem is to find a way of practising decent medicine in spite of the NHS. The surgeries are inundated with tripe—head colds and so on, and you have to be on your toes to pick out the people who might have something amiss. We see so many who are just wasting our time that it's tempting to treat everything as a triviality.'

" 'Your blood'll boil over some of the trifles you're commanded to visit, especially when the calls come in late. It's another reason why G.P.s let their work go to hell—they're in a state of chronic fury about unnecessary late calls. I get rid of patients if they make a habit of it. Everyone knows by now that they should send before 10 a.m., but they also know that they can't be penalized for sending late and that *we* can be *blitzed* for refusing to go. The usual reason is that the mothers don't get up in time—a fortnight in an industrial practice would convince even Karl Marx that the idle rich are far outnumbered by the idle poor.' "

Has anyone read this ten-year record of life as a doctor under NHS? (one hand was raised)

I leave you to draw your own conclusions on whether the attitudes and beliefs of your neighbors about the gradual socialization of our country as well as of medical care have anything to do with your future in medicine. I submit that the attitude research evidence that was produced in our recent study, The Public Relations of Medicine, shows that here in America you need not, but certainly *could be* socialized.

Broad changes in a nation's character sift through all its institutions. One by one, the forces of opposition to socialization are isolated for attack and discredit in society.

In the last thirty, forty years
You saw industry pilloried by government.
Where were you?

You saw agriculture go under bureaucratic rule and production control.
Where were you?

You saw billions each year being thrown into countries who hate us abroad?
Where were you?

You saw your neighbors begging for Federal pork-barrel projects for your town.
Where were you?

You saw battles in your own
State legislature on issues of freedom.
Now you see your own people to whom
You owe so much—The pharmaceutical manufacturers getting defamed in every
Paper in the country, but
Where are you?

Personally, I wish this was a world in which a man could stick to his last and conduct his profession unhampered but it is not. Over the years, we have permitted ourselves to silently enjoy the sight of someone else's ox being gored. Let's not be surprised when our turn comes. It has come for medicine.

Gloomy as the British record and our drift after it seems, let's concentrate on the main theme that medical practice in America *can* remain *free*, if we so desire.

How can this be done?

The method is rational, practical and sure. A control concept for this effort would be as follows:

Step 1—Measure public attitudes that now exist among the people in your state or your town or your practice. This is the universe you wish to influence. In other words, take a hard, cold look at yourselves as the others in your life see you.

Step 2—Decide which changes in public attitudes are needed for a "cure." What needs correcting or improving in the relationship or in the way you practice?

Step 3—Decide on the communicating or action program which will best effect each change needed.

Step 4—Test it to see whether it actually works with people.

Step 5—Apply it with ample resources and personal support.

Step 6—Remeasure to find out whether you in fact effected any change.

Step 7—Continue to
Decide on strategy
Test
Act
Measure.

And that is the technique established in the literature and in attitude research. It works. And for the sake of the freedom of medicine in this country, I hope it gets applied by everyone in the profession, individually in each doctor's practice and by groups such as this. If it does not sound new or world-shaking to you, then explain why it is not being used on the scale necessary to prevent socialized medicine in America.

In applying this control concept, we'll have to face some unpleasant facts:

1. The opposition is powerful and smart.

2. Our recent survey for AMA showed that many people look to government *more* than to organized medicine for future leadership in advancing the nation's health. They feel government will be more likely to reflect the best interests of *all* the people.

3. The general public also showed that rather poor communications and financial relations exist now between the doctor group and the people. This remains an unresolved

source of trouble, but you can do something about *that.*

4. The cost of a full-scale communications effort in dollars would drive medical society membership fees *many times higher* than at present. It would require a major commitment from all physicians. Can we face up to that?

5. Physicians will find no way to delegate *all* of this monumental task to society officers or staff. Each man's life will change as he accepts this commitment to his future and to his country. "Business as usual," whether professional or commercial, is not sufficient to the day if it means ignoring this attack on the very fundamentals of your profession and of American life.

You will really have to *want to win,* enough to change your practice to meet this challenge—to devote time each week to the argument and to the cause.

In summary, in my opinion, your great profession *really* merits *full* public confidence but does not now have that insulation. This is an unfortunate fact. Adverse legislation is thus possible, perhaps probable. To give you hope, however, let me cite the public utilities who, since 1948, waged a large-scale war of ideas to slow the federalization of electric power. They have done rather well, in my opinion, in carrying their sound viewpoint into public awareness and acceptance throughout most of the nation. There is much less criticism today of the industry and less legislative attack.

On the other hand, the commodity markets of the Chicago Board of Trade and the New York Cotton Exchange are almost completely shut down by the federalization of agriculture. They went down almost silently. Agriculture itself is giving up its independence too. For example, recently 1,000 New Jersey egg farmers voted to ask Jimmy Hoffa to organize them into a pressure group. Their markets are evaporating and they want a way to force people to buy their products.

Medicine, however, has been vocal and active although largely on the defensive; perhaps now the medical profession might feel ready to take the offensive on a large scale.

There are many good leaders among you. Elevate them.

You have a powerful, well-regarded Association, the AMA; give it more support and more of your time and guidance.

You have great resources and ideas. Use them.

Our research shows the American people are receptive to your message. *Give it to them* with honesty, fairness and courtesy, being sure that it is repeated often enough for *everyone* to understand your story. Paste this in your hat. Americans, our research proves, always give a fair-minded decision when they understand the issue.

I hope I have made it clear that it will take a *tremendous* continuing effort to establish in the minds and hearts of your fellow Americans the *insulation* from attack your profession deserves.

In this modern world that task will never end, but it can be controlled to operate at a successful level. After all, the public needs to have physicians who are successful, respected and able to provide the best of medical care.

For my own part, I would remind you that an important factor in taking away the honest rewards of medical practice in England, was the large number of doctors who *wanted* socialization. To a degree, the same condition is among you in this hall and in every hall of medicine in the land.

It is my fervent hope that after consulting your consciences and your knowledge of the ways of men, you will undertake with renewed vigor the task of medicine—to provide good health to all Americans—and that you will add to that the task of remaking society to allow voluntary solutions, to make individual responsibility practical, to encourage solvent, limited government, and to obtain the maximum freedom for the human spirit.

Factors Relating To Physician Distribution in Oklahoma 1950-1959

Part V (Conclusion)

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IN THE first four parts of the present series,** data was presented to show that in the 1950 to 1959 interval the loss of practicing physicians from small communities in Oklahoma has continued. Only those communities of 20,000 population (1950) and over have, as a class, shown an increase. When population trends were taken into consideration, the losses of M.D.s per 100,000 population were of similar degree in the Rural-II counties and in the Metropolitan counties (14.2 and 14.9% respectively). Only in the case of osteopathic physicians in the Metropolitan counties did the increase in number exceed the rate of population increase. The over-all results for the state reflected a loss of 4.5% of M.D.s and an increase of 15.1% in D.O.s.

These changes in the M.D. population were shown to be associated with a fairly general increase in the proportion of physicians under 60 years of age. However, only in the Metropolitan and larger urban communities did this result primarily from net gains in the number of physicians under 60. Elsewhere the increased proportion under 60 resulted primarily from the loss of older physicians.

The influence of hospitals in small communities on these trends appeared to be somewhat equivocal. The larger the community the more physicians were retained and the fewer new ones came in. However, a greater proportion remained and new ones came in in the larger communities with hospitals than in those without.

The role of group practice, as a form of concentration and organization of physicians for making medical care available, was shown to be quantitatively small. Unpublished studies of this form of practice revealed that in the Great Plains states, with 54% of their land area making up the semi-arid Plains, there were 216 groups in 1959. One hundred and seven of these were in the Plains area of these states. Excluding groups (37) in the metropolitan areas outside of the Plains area, the 109 Plains groups represented 60% of the urban and small community groups. They included over 47% of M.D.s in group practice in those states. The remaining 53% were to be found in the 72 urban and small community groups outside of the Plains area. Trends of the rural population of these ten states has been downward in eight, and in six of these it had decreased below the 1920 level by 1950. The estimated Plains area density of population in these states varied in 1950 from 2.0 per square mile to 21.6 (Oklahoma) with an average of 13.0. For each state as a whole the population density ranged from 3.0 to 32.4 (Oklahoma) with an average of 15.6.[11]

Our studies of group practice in Oklahoma indicated there was a tendency for groups

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to be associated with a higher replacement rate, which helped to some extent to offset losses from individual practice. This might be expected because it substitutes active and knowledgeable search in place of the passive role played without adequate basis for judgment by most communities in need of physicians.

In the last article of this series we will look at the distribution of physicians as one of several primary and corollary components of the existing pattern of medical care in Oklahoma. In order to assure understanding, it will be necessary to clarify four points, viz (1) the concept of a pattern of medical care to be used as a frame of reference, (2) the definition of primary and corollary components, (3) the structural relationship of these components to the pattern of medical care, and (4) the juxtapositional relationship of the functional aspects of the components in and to the evaluation of the pattern of medical care.

Proceeding from general experience and recent studies, three concepts of the pattern of medical care can be recognized. It should be clear that in reality they are all complementary aspects of one total pattern. Each of the three concepts may be identified by the source of the description, i.e. (1) that from the patient- or potential-patient public, (2) that from the health professions and allied groups and (3) that from a theoretically objective source—an impartial observer. Each of the concepts may be couched in quantitative terms without judgment as to adequacy, and in both quantitative terms *and* qualitative terms with an evaluation of adequacy.

The primary components, as compared to the corollary components, are those without which the pattern of medical care, as described from any of the three sources, could not exist. This also defines the structural relationship of the primary components to the respective pattern concepts. In other words, the concept of the pattern of medical care which emerges will be closely dependent on the source of the description. However, on the basis of experience and of general knowledge a high degree of concensus can be expected from all three sources on certain primary components.

At the point of relating structure to function and of describing the pattern in both quantitative and qualitative terms, one begins to think in terms of "adequacy" of medical care, which requires the preselection of objective criteria against which or by which to evaluate it.

In the ensuing discussion and handling of the material to be presented, we have elected to attempt to place ourselves in the position of the third source, that of being impartial observers. We cannot claim to have been wholly successful, but the differing experience backgrounds of the authors has unexpectedly facilitated their joint efforts in this direction. In fact, this circumstance forced the recognition of the necessity to clarify the meaning of "the pattern of medical care," and thereby the importance of the sources of the partial concepts.

It is our belief that the pattern of medical care is a functional system; that the components of this system and their dynamic interrelationships may be considered to operate as an integrated homeostatic mechanism, no less so for their voluntary nature, resulting in the pattern to be observed and studied. Among the primary components, we would place (1) physicians and physician-services rendered, (2) hospital facilities and their services, (3) educational resources of personnel, (4) public utilization of these, and (5) the availability of economic support to maintain them at the level of their utilization. Each of these can be subdivided into corollary components conceived of as being the relevant qualifying characteristics, inherent or related to the situation in which the primary component is operative, i.e. community organization level, patient care, education, ways, means and level of economic support, etc.

We also believe that in order to comprehend, maintain and retain the system and its *voluntary independent-interdependent* characteristics, and to keep it developing in relation to the changing needs of society, it becomes increasingly important to have a satisfactory method for depicting and evaluating its operation in its separate parts and as a whole. The availability of such information, to be transmitted back to the par-

ticipants, would enable them to evaluate its accomplishments and to make more realistic judgments on modifications to be considered necessary for it to better serve the public. Likewise, the effects of changes would more quickly become evident and measurable.

The main objective of this paper is to present a preliminary exploration, for purposes of illustration, of a method which appears to have the potential for further development into such an instrument. Certain criteria, readily available in published form[5,6,7,8], will be used to represent some of the primary components and the populations which support them. It should also be noted that the ways in which these data are considered also serve as additional means of interpreting the relationships of these factors to physician distribution already dealt with in part in the previous articles of this series. It should be emphasized that this is the quantitative phase of a structural description with no attempt at or implication of qualitative evaluation. Methods for the later still need to be developed to fit this approach.

Preliminary to the main correlations, but contributory to the same, data are presented in Figure I and Table IX on the relation of physicians to hospital operation and construction. Figure I presents a scatter diagram which illustrates a heretofore little considered concept of the relationship of physicians to hospital utilization and operation. The points in the diagram can be fitted by the straight line $Y = 29.64 + 34.19X$. This illustrates that as the number of beds available per physician increases there is a consistent increase in the number of hospital admissions per physician per year. This significant relationship holds regardless of hospital size and type (open or closed staff)* and appears to be one of the most independent we have dealt with to date.** An associated finding, and apparent paradox, is the fact that more than 40% of hospital days remained unused in hospitals of less than 50 beds in 1959. Over 75% of the hospitals in Oklahoma were in that size category in 1959.

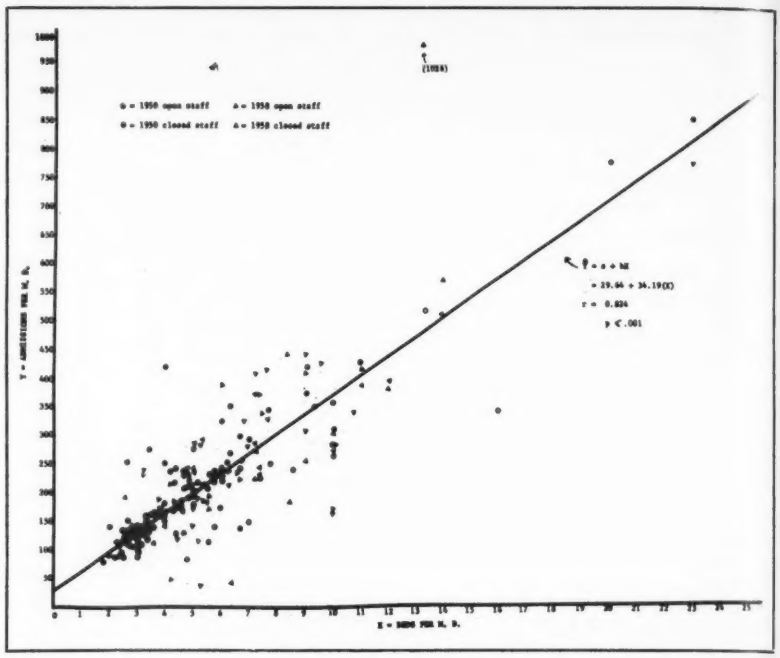

FIGURE I

As the ratio of hospital beds to physicians increases (due either to the addition of beds or to a decrease of physicians) the larger number of admissions per physician per year very likely reflects the physician's concomitant use of hospitalization as a means of deriving the most effective use of his naturally limited physician-time.*** Logically one can expect a point beyond which there would be no further associated increase in admissions but rather a leveling off. Our data, however, does not appear to extend through this point.

Similar studies were made separately of the relationship of the number of hospital

*For the purposes of this initial analysis, "open" or "closed" staff designations are defined from the viewpoint of a physician considering a new location and his interest in the availability of hospital beds on a basis similar to that for the physicians with such access already practicing in the community.

**Unpublished data indicates a relatively close direct relationship between average daily hospital census and the number of physicians in the community, but no significant relationship between the number of physicians and the hospital occupancy expressed in percent.

***The concept of "physician-time" is an important unit of measure, relevant to the diverse demands on his time, and thereby of his patient-care and earning power. (See Roger I. Lee, M.D.—Fundamentals of Good Medical Care—1933).

TABLE IX

Changes in the Distribution of Practicing M.D.s in Relation to Changes (or lack of Changes) in Status of Hospitals (1950 to 1959)

Community Group Kind of Hospital Change	Number of Towns	Number of Hospitals Types of Staff 1950	1959	Number of beds 1950	1959	Percent of M.D.s remaining	New	Percent Total Change to 1959	Percent Replacement	Percent Less than 60 1950	1959	Percent Total Change to 1960
I												
Only Hospital Discontinued	8	c-8	None	104	None	25.0	50.0	—56.2	29.0	56.0	71.4	—62.5
II												
Gained New Hosp.	11	None	c-6	0	56	43.0	65.4	+24.0	142	43.0	77.0	+9.5
			o-5	0	102							
III												
Closed Staff to Open Staff	10	c-10	c-2	160	25	48.4	51.7	—3.2	97.0	50.0	75.0	—8.1
			o-10		320							
IV												
No Change	33	c-24	c-24	596	637	56.9	32.4	—16.0	63.0	71.0	76.1	—16.0
		o-9	o-9	239	246							

c = "closed" staff
o = "open" staff

admissions per physician to (1) the population per physician and (2) the population per hospital bed. The results did not show as obviously clear or strong a relationship in either instance as do those in Figure I.

Table IX presents data on 62 communities, of somewhat similar population range (500-6000-1950), sorted into four groups according to changes in their acute general hospital facilities and beds between 1950 and 1959. Accompanying these data are the figures on physician distribution and changes for each community group. As can be seen in Group I the loss of the only hospital (all "closed" staff) appears to be correlated with a strikingly adverse change in the physician population. This follows on excessive losses of physicians and limited replacement of such losses. Community Group II, having had no hospital previously and gaining one in this interval, shows the reverse phenomena from those in Group I. Fewer physicians left and this was accompanied by a replacement percentage 40% greater than the losses, resulting in a net increase of 24% by 1959.

Community Group III had "closed" staff hospitals which were either replaced by, or remained along with, the addition of an "open" staff hospital. In the process the number of beds doubled. This change was accompanied by little change in the physician population except in the proportion of the younger age group. (Compare with Tables VI and VII, Parts III and IV in this series.)

Community Group IV in which no significant change of the hospitals took place shows practically the same physician population picture as illustrated for such size communities, without group practice, in Table VI. In contrast to the first three community Groups in Table IX, there was no evidence of continued physician loss through 1959 to 1960. This fact, along with the high proportion of physicians below sixty years of age in both 1950 and in 1959 suggests something more stable about Group IV communities. What this might be we do not know.

Keeping in mind these types of studies and those of previous articles, we can now turn to a more general approach discussed earlier in this paper. Tables X, XI, XII, and XIII illustrate the highly significant relationship existing between four different

TABLE X

Urbanized counties—Coefficient of Concordance (W)
Data and Rankings on Factors Used

Rank Result	County	B.P.I. Index	B.P.I. Rank	M.D.s No.	M.D.s Rank	Hospital Beds No.	Hospital Beds Rank	Hospital Days Used No.	Hospital Days Used Rank	Sum of Ranks
1	A	.0133	4	11	1	62	1	17520	3	9
2.5	B	.0137	5	15	2.5	76	3	14600	1	11.5
2.5	C*	.0126	3	15	2.5	88	4	17155	2	11.5
4	D*	.0101	2	20	5	120	7	25185	4	18
5	E*	.0099	1	17	4	135	9	31025	10	24
6	F	.0186	9	21	6.5	105	5	27010	6	26.5
7	G	.0168	8	21	6.5	111	6	28105	8.5	29
8.5	H	.0127	12.5	31	12	72	2	25915	5	31.5
8.5	I	.0155	7	23	8	125	8	28105	8.5	31.5
10	J*	.0198	10	28	10	136	10	27375	7	37
11	K*	.0139	6	30	11	147	12	31775	11	40
12	L	.0202	11	26	9	158	13	39420	13	46
13	M*	.0217	12.5	32	13	146	11	35770	11	48.5
14	N*	.0245	14	39	14	193	15	40150	14	57
15	O*	.0266	15	44	16	164	14	46720	15	60
16.5	P*	.0391	18	40	15	207	17	61320	17	67
16.5	Q*	.0281	17	65	18	198	16	54385	16	67
18	R*	.0272	16	51	17	297	18	88330	18	69
Mean Values		.0191		29		141		36103		

W = .737
p = .001

*Largest Community designated regional hospital center in state hospital construction program.

TABLE XI

Rural-I Counties—Coefficient of Concordance (W)
Data and Rankings for Factors Used

Rank Result	County	B.P.I. Index	B.P.I. Rank	M.D.s No.	M.D.s Rank	Hospital Beds No.	Hospital Beds Rank	Hospital Days Used No.	Hospital Days Used Rank	Sum of Ranks
1	A	.0082	1	9	1	25	1	6935	1	4
2	B	.0101	3	14	3	59	4	11680	4	14
3	C	.0119	5	17	5.5	46	2	10585	2	14.5
4	D	.0085	2	11	2	68	7	14600	8	18
5	E	.0116	4	15	4	63	5	15330	8	21
6	F	.0139	7	17	5.5	67	6	17235	6	24.5
7	G	.0146	9	20	7	50	3	13140	5	24
8	H	.0140	8	22	8	75	8	11502	3	27
9	I*	.0131	6	23	9	153	9	42705	9	33
Mean Values		.0118		16		67		15968		

W = .606
p = <.02

*Largest Community designated a regional hospital center in the state hospital construction program.

criteria representing factors involved in the pattern of medical care system in Oklahoma in 1959. These consist of (1) the three factors of population, cash income and buying habits (retail sales) combined into a weighted index (B.P.I.),[9] (2) the number of M.D.s, (3) the number of hospital beds and (4) the number of hospital days used.

Using the statistic, Kendall's coefficient of concordance (W)*,[10] to evaluate these factors it is possible (1) to specify the degree of interrelatedness among all of them, (2) to rank the counties within the various organization levels** according to the sum of the ranked roles played by these factors in determining the relative relationship of each county to other counties in the group, and (3) to depict the contribution of each factor to the total rank level of each county.

Without reading into the data any judgment regarding "adequacy," it is possible to demonstrate from Tables X and XI how this information on the Urbanized and Rural-I levels may be used. Note that in those counties marked with an asterisk (the major community of each having been considered as a regional hospital center) the B.P.I. ranks for counties D, E, K, R (Table X) and I (Table XI) are low in comparison with the rankings for the number of M.D.s, hospital beds and hospital days used. This suggests that the major communities of these five counties are in fact functioning as medical care centers. The medical care facilities and services in these communities are being used and supported at a level above that to be expected from the local population and income alone. Additional information will be needed to describe the "regional area," population, etc. which these centers are serving, along with their functional relationships to other facilities (hospitals, nursing homes, etc.), the types of care available, and the impact of financing (insurance, Blue Cross, Blue Shield, and medical indigency). Likewise, it should be possible to learn why other major communities, presumably similarly situated, do not appear to be functioning up to their apparent potential.

The Rural-II counties have been separated into two groups, i.e. those in the western

*The value of W may vary from 0 to 1.0, the higher the value the stronger the indicated relationships.
**See Part II, March 1960 for definition of "organization levels."

TABLE XII
Rural-II (Great Plains Area) Counties
Coefficient of Concordance (W)
Data and Rankings for Factors Used

Rank Result	County	B.P.I. Index	B.P.I. Rank	M.D.s No.	M.D.s Rank	Hospital Beds No.	Hospital Beds Rank	Hospital Days Used No.	Hospital Days Used Rank	Sum of Ranks
1	A	.0027	3	1	2	0	2.5	0	2.5	10
2	B	.0023	1	1	2	14	5.5	1825	5	13.5
3	C	.0037	10	1	2	0	2.5	0	2.5	17
4	D	.0036	8	2	5	0	2.5	0	2.5	18
5	E	.0029	4	2	5	14	5.5	3650	6	21.5
6	F	.0024	2	2	5	25	8.5	4380	7.5	24
7	G	.0043	13	3	7	0	2.5	0	2.5	25
8	H	.0034	5.5	4	8	21	7	4380	7.5	38
9	I	.0034	5.5	5	9	25	8.5	5475	10	34
10	J	.0039	8	6	11	32	11	4745	9	39
11	K	.0036	8	6	11	32	11	7665	14	44
12	L	.0041	11	6	11	34	13	5840	11	46
13	M	.0062	16	7	14	45	16	6570	12	58
14	N	.0042	12	7	14	50	17	10950	18	61.0
15	O	.0072	19	9	17	32	11	9490	15.5	62.5
16	P	.0067	17	10	18	39	14	6935	13	62
17	Q	.0051	14	12	19.5	42	15	9490	15.5	64
18	R	.0056	15	8	16	54	18.0	17520	19	67
19	S	.0073	20	7	14	64	19	10220	17	70
20	T	.0070	18	12	19.5	77	20	18615	20	77.5
Mean Values		.0045		6		30		6382		

W = .856
p = <.001

TABLE XIII

Rural-II Eastern Counties Coefficient of Concordance (W)
Data and Rankings for Factor Used

Rank Result	County	B.P.I. Index	B.P.I. Rank	M.D.s No.	M.D.s Rank	Hospital Beds No.	Hospital Beds Rank	Hospital Days Used No.	Hospital Days Used Rank	Sum of Ranks
1	A	.0033	5	1	1.5	0	4.5	0	4.5	15.5
2	B	.0025	3	4	7.5	0	4.5	0	4.5	19.5
3	C	.0042	9.5	1	1.5	0	4.5	0	4.5	20
3	D	.0040	8	2	3	0	4.5	0	4.5	20
5	E	.0021	1.5	5	10.5	0	4.5	0	4.5	21
6	F	.0021	1.5	3	5	15	10	2555	10	26.5
7	G	.0032	4	3	5	11	9	2190	9	27
8	H	.0048	13	4	7.5	0	4.5	0	4.5	29.5
9	I	.0038	7	6	14.5	0	4.5	0	4.5	30.5
10	J	.0036	6	3	5	18	11	6205	15	37
11	K	.0059	20	5	10.5	0	4.5	0	4.5	39.5
12	L	.0068	23	5	10.5	19	12	4015	11	56.5
13	M	.0045	12	6	14.5	28	17	6570	17	60.5
14	N	.0049	14	6	14.5	36	20	5840	13	61.5
15	O	.0054	17	5	10.5	27	16	7300	19	62.5
16	P	.0056	18	7	18	25	14	5840	13	63.0
17	Q	.0050	15	8	20.5	26	15	5840	13	63.5
18	R	.0042	9.5	7	18	36	20	6570	17	64.5
19	S	.0061	24.0	6	14.5	20	13	6570	17	65.5
20	T	.0044	11	8	20.5	45	23	8030	20.5	75
21	U	.0081	24	9	23.5	30	18	8030	20.5	86
22	V	.0052	16	7	18	50	27	15330	26.5	87.5
23	W	.0057	19	11	26.5	36	20	10950	24.5	90.0
24	X	.0066	22	9	23.5	48	26	9490	23	94.5
25	Y	.0088	27	11	26.5	42	22	9125	22	97.5
25	Z	.0085	25	9	23.5	46	24.5	10950	24.5	97.5
27	AA	.0086	26	9	23.5	46	24.5	16095	28	102.0
28	BB	.0100	28	15	28	77	28	15330	26.5	110.5
Mean Values		.0053		6		24		5115		

W = .001
p = <.001

(Great Plains) section of the state (Table XII) and those in the eastern section (Table XIII). In addition to geographic and population density differences, (8.9/sq.m-W and 18.2/sq.m.-E), this division was based on findings, for the year 1959, that hospital occupancy and bed use (admissions per bed per year) were lower and local hospital admissions per 1000 population were higher (116.8) in the western Rural-II counties than in the eastern group (89.2). The average hospital admissions for the state was 117/1000 population and for the United States 119/1000. (Exclusive of osteopathic hospitals).

The data in Tables XII and XIII illustrate again the high degree of concordance among the variables studied, even in the face of the markedly different characteristics of the western rural areas and the eastern rural areas.

An extension of the general approach presented here, incorporating more sophisticated statistical techniques of data collection and analysis (such as multivariate analysis and multiple regression methods) should permit the testing and weighting of constants for these and other significant components. By such means, it should be possible to provide an appropriate index for estimating the adequacy of medical care in a given community.

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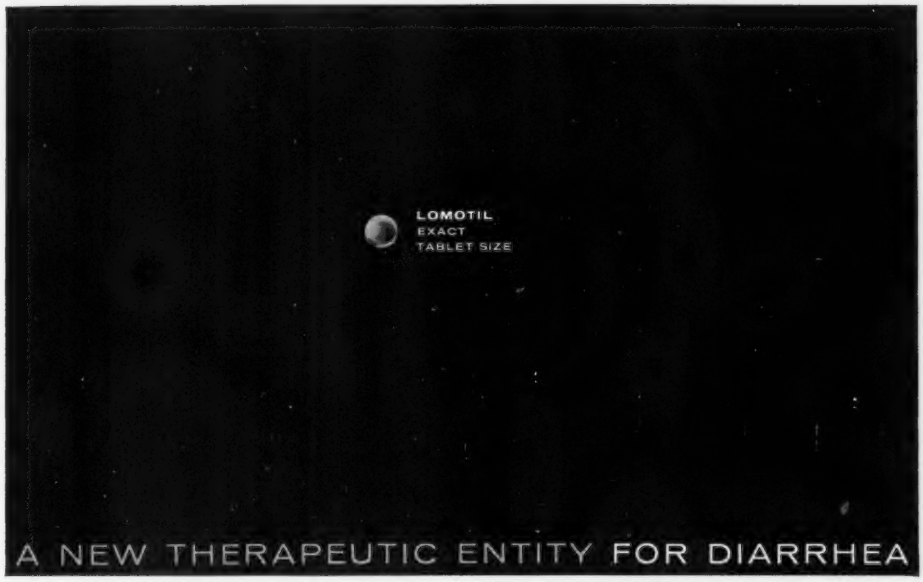

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Precise quantitative pharmacologic studies demonstrate that Lomotil controls intestinal propulsion in approximately $\frac{1}{11}$ the dosage of morphine and $\frac{1}{20}$ the dosage of atropine and that therapeutic doses of Lomotil produce few or none of the diffuse untoward effects of these agents.

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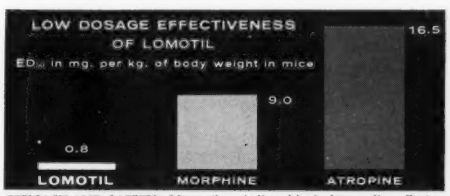

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Research in the Service of Medicine

PRESIDENT'S LETTER

The medical profession continues to be a favorite whipping boy for popular writers. The current Harper's magazine (Harper's magazine, October, 1960) contains an article by Edward T. Chase entitled "The Politics of Medicine." According to Mr. Chase, the American Medical Association is an ogre, preventing the logical development of medical care into pre-payment plans and group practice to administer these plans. Mr. Chase takes the position of so many others that I feel is ridiculous; that is that one plan can be set up in New York or Seattle or Miami, Florida that will ideally suit the needs of the entire population of the United States. I say again, as I said in my President's Page message of June in this *Journal*, after returning from a meeting in Chicago which devoted two days to presentation of all aspects of prepaid medical care, that different systems will have to be instituted to blend with the type of practice in different areas of this country. This is true within our own State, where several counties have service plans under Blue Shield but where most of our 77 counties want no part of such a plan. The situation is fluid. It will change back and forth I am sure. But we must be sensitive to these trends and study the plans critically for their good and bad aspects. Let's not be guilty of looking only at one side of the problem as Mr. Chase has done. You might read his article, that is if one of your patients hasn't already thrust it into your hands.

It has become necessary to call a meeting of the Council for November 13, to be followed that same Sunday afternoon by a meeting of the House of Delegates. There are matters for consideration by both groups that must be decided. It is my belief, however, that even though no particular problems are current that we should have regular meetings of the Council and House of Delegates twice a year. The advantage of this schedule is that we will thus have a meeting of our own State governing bodies before each meeting of the AMA. The winter meeting of the AMA this year is in Washington, D.C., November 28, 29, 30 and December 1. It is imperative that we formally present any resolutions from our Association as far in advance of the AMA meeting as possible and it is also mandatory that we instruct our delegates regarding any specific course

of action which we would like for them to follow. An instructed delegate from a State Association to the American Medical Association bears the same responsibility that you bear as a delegate from your County Society to the Oklahoma State Medical Association. Let's be thinking seriously of what we may want them to present or what we want explained or explored.

I often look with admiration at the writings of the other regular contributor in this *Journal*, my printer's ink neighbor, Doctor Mark Everett. He has a professional flair for writing, and probably he should, inasmuch as he writes this page of his month-in and month-out, year-in and year-out. I come along for one year and try to turn out something readable once a month that also expresses thought on the trends in our profession, but it is not as smooth as Doctor Everett's prose. I don't know how he makes copy seem current when I know that he has had to turn his own contribution in to the *Journal* a month before it actually appears in print in your office and mine. To me, this is an insurmountable barrier to fresh writing. I turn out something that seems to be of great interest to me on August 25, let me say, but when the printed word finally appears on my desk, September 22, it has a drab, worn look about it. But this is not true of the professor's effort. Turn to his page now and read a fluent, vigorous presentation of his subject for the month.

Walter E. Brown, M.D.
President

THE PRESIDENTIAL ELTI

DEMOCRATIC PLATFORM

Health

Illness is expensive. Many Americans have neither incomes nor insurance protection to enable them to pay for modern health care. The problem is particularly acute with our older citizens, among whom serious illness strikes most often.

We shall provide medical care benefits for the aged as part of the time-tested social security insurance system. We reject any proposal which would require such citizens to submit to the indignity of a means tset—a "pauper's oath."

For young and old alike, we need more medical schools, more hospitals, more research laboratories to speed the final conquest of major killers.

Medical Care for Older Persons

Sixty million Americans—more than one-third of our people—have no insurance protection against the high cost of illness. For the rest, private health insurance pays, on the average, only about one-third of the cost of medical care.

The problem is particularly acute among the 16 million Americans over 65 years old, disabled workers, widows and orphans.

Most of these have low incomes and the elderly among them suffer two to three times as much illness as the rest of the population.

The Republican administration refused to acknowledge any national responsibility for health care for elder citizens until forced to do so by an increasingly outraged demand. Then, their belated proposal was a cynical sham built around a degrading test based on means or income—a "pauper's oath."

The most practicable way to provide health protection for older people is to use the contributory machinery of the social security system for insurance covering hospital bills and other high cost medical services. For those relatively few of our older people who have never been eligible for social security coverage, we shall provide corresponding benefits by appropriations from the general revenue.

Research. We will step up medical research on the major killers and crippling diseases—cancer, heart disease, arthritis, mental illness. Expenditures for these purposes should be limited only by the availability of personnel and promising lines of research. Today such illness costs us $35 billion annually, much of which could be avoided. Federal appropriations for medical research are barely 1% of this amount.

(Continued on Page 712)

vember 8 Presidential Election and physicians, as good citizens, are interested in a total evaluation of the candidates. Since the health planks of both party platforms will play important roles, however, this reprint will assist the physician in examining a key issue of special significance.

ELECTION: HEALTH ISSUES

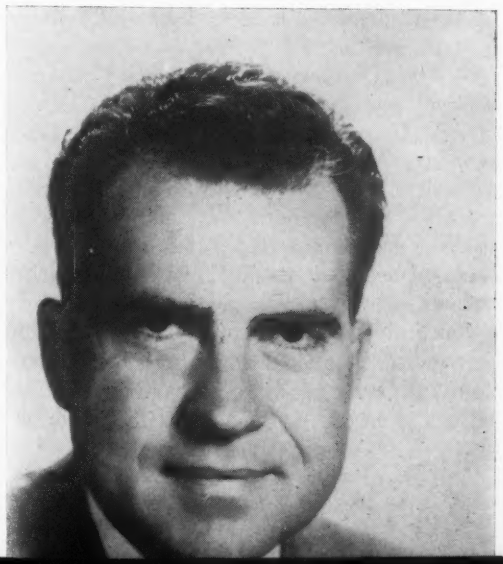
REPUBLICAN PLATFORM

Human Needs

The ultimate objectives of our free society and of an ever growing economy is to enable the individual to pursue a life of dignity and to develop his own capacities to his maximum potential.

Government's primary role is to help provide the environment within which the individual can seek his own goals. In some areas this requires federal action to supplement individual, local and state initiative. The Republican Party has acted and will act decisively, compassionately, and with deep human understanding in approaching such problems as those of the aged, the infirm, the mentally ill, and the needy.

This is demonstrated by the significant increase in social security coverage and benefits as a result of recommendations made by the Eisenhower-Nixon Administration. As a result of these recommendations and normal growth, 14 million persons are receiving benefits today compared to five million in 1952, and benefit payments total $10.3 billion as compared to $2.5 billion in 1952. In addition there have been increases in payments to those on public assistance, both for their basic needs and for their health and medical care; and a broad expansion of our federal-state program for restoring disabled persons to useful lives — an expansion which has accomplished the rehabilitation of over half a million persons during this Administration.



New needs, however, are constantly arising in our highly complex, interdependent, and urbanized society.

To meet the needs of the aging, we pledge:

—Expansion of coverage, and liberalization of selected social security benefits on a basis which would maintain the fiscal integrity of the system.

—Support of federal-state grant programs to improve health, welfare and rehabilitation services for the handicapped older persons and to improve standards of nursing home care and care and treatment facilities for the chronically and mentally ill.

—Federal leadership to encourage policies that will make retirement at a fixed age voluntary and not compulsory.

—Support of programs that will persuade and encourage the nation to utilize fully the skills, wisdom and experience of older citizens.

(Continued on Page 712)

Democratic (continued)

Heart disease and cancer together account for two out of every three deaths in this country. The Democratic President will summon to a White House conference the nation's most distinguished scientists in these fields to map a coordinated long-run program for the prevention and control of these diseases.

We will also support a cooperative program with other nations on international health research.

Hospitals. We will expand and improve the Hill-Burton hospital construction program.

Health Manpower. To ease the growing shortage of doctors and other medical personnel we propose federal aid for constructing, expanding and modernizing schools of medicine, dentistry, nursing and public health.

We are deeply concerned that the high cost of medical education is putting this profession beyond the means of most American families. We will provide scholarships and other assistance to break through the financial barriers to medical education.

Mental Health. Mental patients fill more than half of the hospital beds in the country today. We will provide greatly increased federal support for psychiatric research and training and community mental health programs to help bring back thousands of our hospitalized mentally ill to full and useful lives in the community.

A Program for the Aging

The Democratic administration will end the neglect of our elder citizens. They deserve lives of usefulness, dignity, independence, and participation. We shall assure them not only health care but employment for those who want work, decent housing, and recreation.

Already 16 million Americans—about one in ten—are over 65, with the prospect of 26 million by 1980.

Health. As stated, we will provide an effective system for paid-up medical insurance upon retirement, financed during working years through the social security mechanism and available to all retired persons without a means test. This is first priority.

Republican (continued)

—Prompt consideration of recommendations by the White House Conference on Aging called by the President for January 1961.

Health Aid

Development of a health program that will provide the aged needing it, on a sound fiscal basis and through a contributory system, protection against burdensome costs of health care. Such a program should

—provide the beneficiaries with the option of purchasing private health insurance —a vital distinction between our approach and Democratic proposals in that it would encourage commercial carriers and voluntary insurance organizations to continue their efforts to develop sound coverage plans for the senior population;

—protect the personal relationship of patient and physician.

—include state participation.

For the needs which individuals of all age groups cannot meet by themselves, we propose:

—Removing the arbitrary 50-year age requirement under the disability insurance program while amending the law also to provide incentives for rehabilitated persons to return to useful work.

—A single, federal assistance grant to each state for aid to needy persons rather than dividing such grants into specific categories.

—A strengthened federal-state program to rehabilitate the estimated 200,000 persons who annually could become independent after proper medical services and occupational training.

—A new federal-state program, for handicapped persons completely dependent on others, to help them meet their needs for personal care.

Health

There has been a five-fold increase in government-assisted medical research during the last six years. We pledge:

—Continued federal support for a sound research program aimed at both the prevention and cure of diseases, and intensified efforts to secure prompt and effective appli-

Democratic (continued)

Income. Half of the people over 65 have incomes inadequate for basic nutrition, decent housing, minimum recreation and medical care. Older people who do not want to retire need employment opportunity and those of retirement age who no longer wish to or cannot work need better retirement benefits.

We pledge a campaign to eliminate discrimination in employment due to age. As a first step we will prohibit such discrimination by government contractors and subcontractors.

We will amend the Social Security Act to increase the retirement benefit for each additional year of work after 65, thus encouraging workers to continue on the job full time.

To encourage part-time work by others, we favor raising the $1200 a year ceiling on what a worker may earn while still drawing social security benefits.

Retirement benefits must be increased generally, and minimum benefits raised from $33 to $50 a month.

Housing. We shall provide decent and suitable housing which older persons can afford. Specifically we shall move ahead with the program of direct government loans for housing for older people initiated in the Housing Act of 1959, which the Republican administration has sought to kill.

Special Services. We shall take federal action in support of state efforts to bring standards of care in nursing homes and other institutions for the aged up to desirable minimums.

We shall support demonstration and training programs to translate proven research into action in such fields as health, nutritional guidance, home care, counseling, recreational activity.

Taken together, these measures will affirm a new charter of rights for the older citizens among us—the right to a life of usefulness, health, dignity, independence and participation.

Physically Handicapped. We pledge continued support of legislation for the rehabilitation of physically handicapped persons and improvement of employment opportunities for them.

Republican (continued)

cation of the results of research. This will include emphasis on mental illness.

—Support of international health research programs.

We face serious personnel shortages in the health and medical fields. We pledge:

—Federal help in new programs to build schools of medicine, dentistry, public health and nursing and to provide financial aid to students in those fields.

We are confronted with major problems in the field of environmental health. We pledge:

—Strengthened federal enforcement powers in combatting water pollution and additional resources for research and demonstration projects. Federal grants for the construction of waste disposal plants should be made only when they make an identifiable contribution to clearing up polluted streams.

—Federal authority to identify, after appropriate hearings, air pollution problems and to recommend proposed solutions.

—Additional resources for research and training in the field of radiological medicine.

Protection of Consumers

In safeguarding the health of the nation the Eisenhower-Nixon Administration's initiative has resulted in doubling the resources of the Food and Drug Administration and in giving it new legal weapons. More progress has been made during this period in protecting consumers against harmful food, drugs, and cosmetics than in any other time in our history. We will continue to give strong support to this consumer-protection program.

Veterans

We believe that military service in the defense of our Republic against aggressors who have sought to destroy the freedom and dignity of man imposes upon the nation a special responsibility to those who have served. To meet this responsibility, we pledge:

—Continuance of the Veterans Administration as an independent agency;

—Highest possible standard of medical care with increasing emphasis on rehabilitation to restore them to meaningful lives.

GOOD CITIZENSHIP CAMPAIGN

Physicians must be recognized as influential, responsible citizens if they are to keep pace in a fast-moving world of social and political change.

There are no better ways to achieve such recognition than by demonstrating a sincere interest in good government, and by exercising local leadership toward democratic representation at the polls. Specifically, each individual physician must be well-informed about candidates and issues, must attend precinct and ward meetings to assure the selection of qualified candidates, should contribute physically and financially to the candidate and party of his choice, and most importantly, he must vote and encourage others to discharge this basic responsibility of freedom.

On November 8, 1960, another milestone in the political course of our nation will be reached. Sadly, many Americans will arbitrarily cast their votes, while many others will commit an equal sin—fail to go to the polls!

What better opportunity for a Good Citizenship Campaign! It's simple—just employ the office display card on the opposite page, encourage others to close their offices for part of the election day, impress everyone you contact with the value of their vote!

COUNCIL ON PUBLIC POLICY

Pensioners and Near-Needy Get Expanded Medical Care Program

An expanded, $19 million a year medical care program for 89,000 recipients of old age assistance has been placed in operation by the Oklahoma State Department of Public Welfare. At the same time, plans are being formulated to help pay the costs of health care for approximately 15,000 persons over age 65 who do not qualify as pensioners, but who are unable to bear the cost of illness out of their own resources.

The financial plight of the Department of Public Welfare announced in last month's Journal has been relieved by the passage of H.R. 12580. Thus, the temporary 10% cut in payments to health care vendors has now been restored.

The expansion of the old age assistance program and the creation of the plan to help the *near-needy* were made possible by congressional approval of H.R. 12580 last August. An amendment to the Social Security Act, the new law provides for federal-state supported health programs as designed by the various state governments, for both categories of medically indigent. Although the legislative measure is incorporated into the O.A.S.I. law, it will be administered at the federal level by the Department of Health, Education and Welfare, and the federal funds will be taken from general revenue rather than through an increase in Social Security taxes.

Previously, Oklahoma was spending about $11 million of its sales tax revenue a year to provide certain health care services to old age assistance recipients. Now, the federal government will match state medical care funds in accordance with the equalization formula used to compute the federal share of old age assistance payments. Based on per capita income of the state, Oklahoma will get 68% of its money matched by Uncle Sam, bringing the medical pooled fund for the state up to about $19 million annually.

Expanded benefits will result from the federal participation. Whereas only $12 per month was previously available to pay into the pooled fund for each individual pensioner, there will now be $18-$20 each.

Controversial Legislation

H.R. 12580, frequently referred to as the Kerr Bill (Senator Robert S.), represented compromise legislation which evolved from three years' congressional debate over providing health care for the ever-increasing segment of the nation's over-65 population. Rearing its ugly head throughout the long deliberation of the problem was the Forand Bill, which would place all Social Security recipients under a medical-coverage-umbrella of O.A.S.I., with increased payroll deductions necessary to finance the scheme. Since financial need was excluded from consideration under such "Mother Hubbard" legislation and since many needy persons would not qualify under the system, the measure was opposed by medical organizations and other groups interested in protecting individual rights from ill-conceived federal benevolence. On the other hand, the American Medical Association actively supported H.R. 12580, since it provided for local responsibility and control. Moreover, it provides for those who truly need help, rather than using a shotgun technique of financing. The "Kerr Bill" will cost the federal taxpayers an estimated $300 million per annum, versus over $1 billion annually for the Forand approach.

A last-ditch maneuver to amend H.R. 12580 on the Senate floor, and place the health program under the financial system of O.A.S.I., was successfully fought by Senator Kerr. The victory was close, however, with only 51 Senators out of 100 voting against the amendment.

Benefits Outlined

Immediately after the bill became law, the Oklahoma Public Welfare Commission and the state Department of Public Welfare, working with the Professional Advisory Committee, set to work drafting policies for the implementation of the program in Oklahoma. After a series of meetings and consultations with interested professional associations, the Commission stamped final approval on the proposed program at a special meeting held September 27, 1960. In highlighting the approved program, discussion may be grouped into four general areas: In-Patient Medical Care; Out-Patient Institutional Care; Out-Patient Non-Institutional Care; and, Miscellaneous Provisions.

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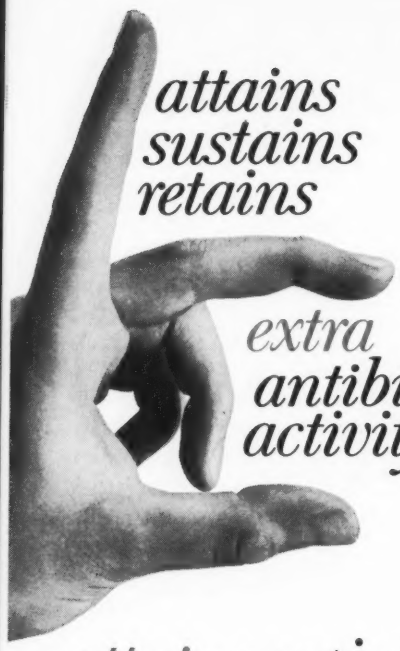

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sustains
retains

extra
antibiotic
activity

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attains activity levels promptly

DECLOMYCIN Demethylchlortetracycline attains—usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

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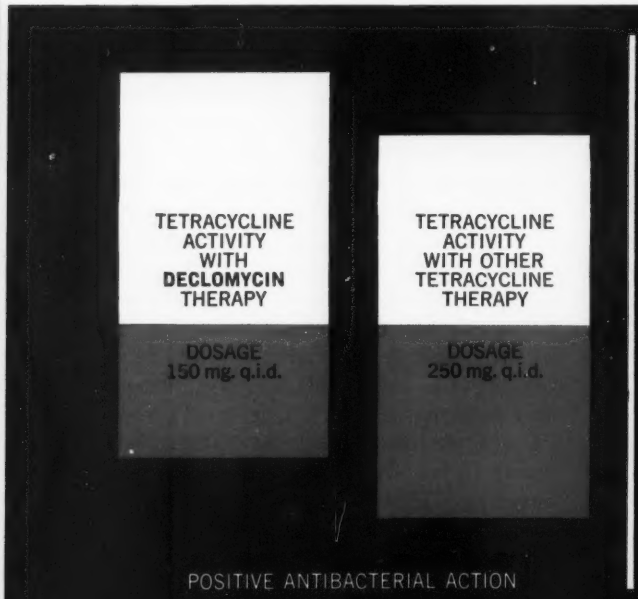
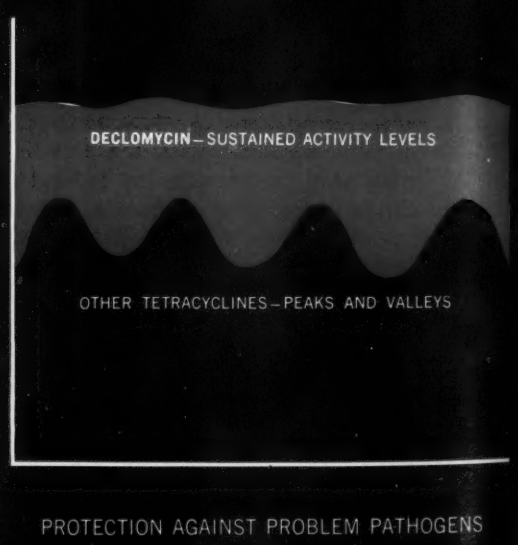
DECLOMYCIN Demethylchlortetracycline sustains, through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or at another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.


TETRACYCLINE ACTIVITY WITH DECLOMYCIN THERAPY
DOSAGE 150 mg. q.i.d.
TETRACYCLINE ACTIVITY WITH OTHER TETRACYCLINE THERAPY
DOSAGE 250 mg. q.i.d.
POSITIVE ANTIBACTERIAL ACTION



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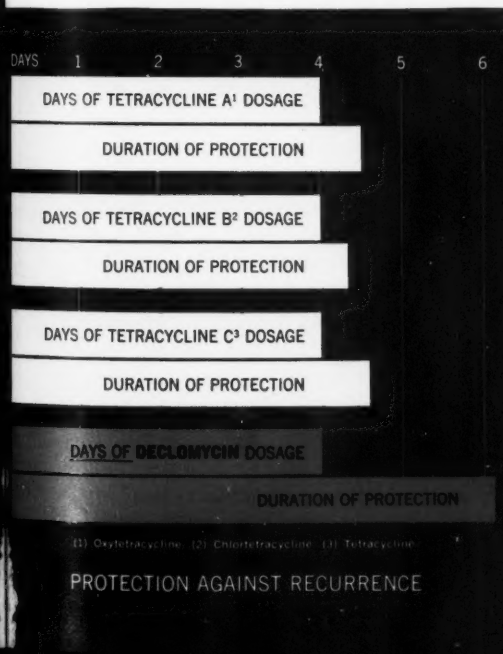
DAYS 1 2 3 4 5 6
DAYS OF TETRACYCLINE A[1] DOSAGE
DURATION OF PROTECTION
DAYS OF TETRACYCLINE B[2] DOSAGE
DURATION OF PROTECTION
DAYS OF TETRACYCLINE C[3] DOSAGE
DURATION OF PROTECTION
DAYS OF DECLOMYCIN DOSAGE
DURATION OF PROTECTION
(1) Oxytetracycline (2) Chlortetracycline (3) Tetracycline
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CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

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(Continued from Page 715)

In-Patient Medical Care

Doctors and Hospitals. Payment for general hospital care in licensed general hospitals is limited to a maximum of *twenty-one days for any one admission.* The rate of pay for the twenty-one days will be one hundred per cent of the hospital's per diem cost, with a recognized ceiling *($20.93)*, or billed charges, whichever is less. Payment on behalf of recipients of old age assistance, aid to the blind, aid to dependent children's parents and aid to the disabled and non-assistance medically needy aged is limited to that hospital care required for life-endangering or sight-endangering illnesses.

Licensed medical and osteopathic physicians will be paid at the *rate of $5 per day for not more than fifteen days of any twenty-one day admission.* Payment for surgeons, anesthetists, pathologists and radiologists (for therapeutic radiology of malignant diseases) will be at *seventy-five per cent of the Commission's recognized rate,* as set forth in the Physician's Manual (The *current* Medicare fee schedule will be considered the recognized rate. Since some Medicare fees were adjusted upward in 1958, the new welfare fees will be somewhat more liberal). Assistant surgeons will be paid at the rate of *ten per cent* of the recognized surgical fee.

In collecting for both physician and general hospital services, private medical resources (such as insurance) of the patient should be applied toward the payment of billed charges. A bill may then be submitted to the welfare department for the difference between total billed charges and other resources, so long as that difference does not exceed the rate established by the Department of Public Welfare.

Nursing Homes. A major change in the program is found in the category of nursing home care. The Oklahoma Nursing Home Association has established a classification system (July, 1960, *Journal* of the OSMA) and the welfare department will honor this system by financially differentiating between the various classes and types of care.

Payment for nursing home services will be in the form of a vendor payment to the nursing home. An additional $46 per month is included in the recipient's money payment to be used for the items of food and shelter.

NURSING HOMES: METHOD OF PAYMENT

	Recognized Daily Rate	Welfare Daily Rate	Collectible From Other Resources*
Class A-1 Heavy	$5.10	$4.30	$.80
A-1 Light	3.60	3.05	.55
Class A-2 Heavy	4.90	4.15	.75
A-2 Light	3.40	2.90	.50
Class B-1 Heavy	4.70	4.00	.70
B-1 Light	3.20	2.70	.50
Class B-2 Heavy	4.50	3.80	.70
B-2 Light	3.10	2.60	.50
Class C-1 Heavy	2.75	2.55	.20
C-1 Light	2.50	2.40	.10
Class C-2 Heavy	2.65	2.50	.15
C-2 Light	2.40	2.40	.00

*May be collected from insurance, relatives, etc., but not from patient.

The rate for "light nursing care" will be paid until proof of the need for "heavy nursing care" is furnished to the welfare department. This proof must include a statement from the attending physician setting forth the type of nursing service needed.

Physicians will be paid for necessary visits to the nursing home at the rate of $5 per call per patient for a maximum of two calls per patient per calendar month. A $5 fee will also be paid for the initial examination to distinguish between light or heavy nursing care need.

Convalescent Hospitals. Also extended to include *convalescent care in a general hospital,* this new category of aid has been made possible by the federal legislation.

If application is made in behalf of the recipient for convalescent care, the reimbursable cost of the hospital facility will be paid up to *a maximum of $10.47 per day, not to exceed thirty-one days for one admission.* Thus, a general hospital, upon finding it necessary to retain a patient to the termination of the twenty-one day compensable period, may file application for an additional thirty-one days at one-half of the general hospital rate. However, no payment will be made for either nursing home or convalescent care without prior approval by the welfare department.

Physicians will be paid for care of convalescent patients at the rate of $5 per visit, for a maximum of ten visits per admission, with the maximum compensable rate being one visit per day.

Out-Patient Institutional Care

Payment will be made to licensed general hospitals in the form of an emergency room fee of $5.50, such payment being limited to acute injury cases only. When it is necessary that diagnostic x-ray studies be made on such cases, a maximum of $15 is authorized. When it is necessary that diagnostic laboratory procedures be performed, a maximum of $7.50 is allowed. None of the above fees will be paid if the patient is admitted to the hospital within twenty-four hours.

Physicians will be paid for such emergency room care at the rate of $5 per emergency room visit or at the rate of seventy-five per cent of the recognized surgical procedure schedule for surgery performed on acute injury cases. Admission to the hospital within twenty-four hours will void this provision.

Out-Patient Non-Institutional Care

Emergency Care. Except for the payment of an emergency room fee, the provisions for institutional out-patient care also apply to *emergency services performed in the physician's office.*

Home Visits. *Physicians will be paid for home visits to persons receiving authorized nursing care in the home at the rate of* $5 *per house call, with a maximum of two calls per month. Physicians may also be paid for making the initial examination to determine the need of nursing care in the home, at the rate of $5 per examination.*

Radiology. *Out-patient therapeutic radiology is authorized* for malignant diseases, *at 75% of the recognized schedule of allowances,* when such therapy has been prescribed while the patient is in the hospital.

Home Nursing Care. Payment will be made to persons rendering nursing care in the recipient's own home, when this person has been certified competent to render such care by the attending physician. Payment for such care will be at the rate of $2.00 per day, per patient, when such care has been approved by the welfare department's Medical Review Team, upon written recommendation of the attending physician, with an additional $1.00 per day, per each additional recipient, when there are other eligible persons in the household. Registered nurses and licensed practical nurses may bill the Department for nursing services rendered to no more than four persons daily. Non-licensed persons may bill for no more than two households and not to exceed four persons daily.

Miscellaneous Provisions

Provisions for ambulance service, blood banks and dental services remain unchanged from the previous program. Ambulance services will be paid at twenty-five cents per mile, blood banks at $15 per pint (if blood has not been replaced for the recipient within ninety days of administration), and dentists will be paid for care of life-endangered conditions involving fractures, infections or tumors of the mouth.

The Near-Needy Program

Non-public assistance cases will be cared for within the availability of funds. The Public Welfare Commission has agreed that the scope of the program and the quality of care will be the same for this category of medically indigent as for those on the public assistance rolls.

With the benefits the same, the problem is now one of determining the eligibility requirements for the "near-needy" group. It is anticipated that these requirements will be substantially the same as for those on public assistance rolls, primarily due to the limitation of present state funds to be used for federal matching purposes for the non-assistance group.

Extension of the program into this area will be accomplished to some degree, however, because federal matching funds in the old age assistance program have freed a portion of state funds which may now be used to care for the near-needy.

It is important to note that the near-needy medical program will be operated in such a manner as to provide help when other medical resources have been used. In other words, the patient will probably already be in the hospital before application is made for financial assistance. Unlike the old-age assistance program, the federal government will not assist the state in establishing a pooled fund, but, rather, will simply reimburse the welfare department for a portion of an expense already incurred and paid.

New Manual

A new Physician's Manual is now being prepared by the Oklahoma State Department of Public Welfare for distribution to each physician in the state.

Historic Washington Hosts AMA Clinical Meeting

Washington, D. C., site of the 1960 clinical meeting of the American Medical Association, is a city of imposing dignity with a rich historical tradition.

Its world famous landmarks, the Washington Monument, Lincoln Memorial, Capitol and White House, are the city's biggest attractions. But the symmetrically laid out streets of the nation's capital lead to many other points of interest.

In the vicinity of the White House, grouped around Lafayette Square, are Blair-Lee House, the president's guest house; Decatur House, one of the few remaining mansions that originally lined the square; the Truxtum-Decatur Naval Museum; the former home of Dolly Madison, and St. John's Church where 13 presidents have worshipped.

An estimated 51,000,000 historical items are jammed into the Smithsonian Institute, located on the Mall which lies between Capitol Hill and the Lincoln Memorial. The collection, including Charles A. Lindberg's plane, The Spirit of St. Louis, and stuffed game bagged by Theodore Roosevelt, has earned for the institution the nickname of "the nation's attic."

The real historical charm of Washington is found in Georgetown. Many houses reflect the feeling of the colonial era. However, there is only one authentically furnished Colonial house open to the public all year round—Dunbarton House, a brick mansion built around 1800. Another of Georgetown's famous houses is Evermay, built about 1792.

Two other famous homes near Washington are Robert E. Lee's restored mansion in Arlington, Virginia, and the white-columned Mount Vernon of George Washington.

There are many places associated with the first president within easy reach of the capital. In nearby Alexandria are Christ Church, where Washington was a vestryman, and Gadsby's Tavern, his headquarters as a colonel in the Virginia Militia.

Just 80 miles from Washington is Gettysburg, Pennsylvania, scene of the greatest battle of the Civil War. Cannon still stand in place, and the sequence of events can be reconstructed from markers and tablets.

Other historically interesting towns, slightly farther from Washington, are Fredericksburg, Williamsburg, Charlottesville and Richmond in Virginia, and Annapolis, Maryland.

In addition to historical sights, most visitors to Washington go to Arlington National Cemetery to view the tombs of the unknown soldiers of three wars and take tours of the Supreme Court, the FBI and the Bureau of Engraving and Printing.

Washington also takes pride in its cultural attainments. It has many fine art galleries, among them the National Gallery of Art, the Corcoran Gallery of Art, Freer Gallery of Art and Phillips Memorial Gallery. It also has innumerable theaters and offers concerts by the National Symphony Orchestra and the Army, Navy, Air Force and Marine bands.

Washington has excellent restaurants, many featuring seafood from Chesapeake Bay. There are also French, German, Italian and Oriental restaurants in the capital.

An attractive feature of shopping in Washington are the frequent noon-time fashion shows in leading department stores.

All in all, autumn in Washington can be a delightful season for the physician and his family attending the AMA's 14th clinical meeting, November 28-December 1.

Robert J. Huebner, M.D., Will Speak at Medical Center

Robert J. Huebner, M.D., chief, Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, has accepted the invitation of the Oklahoma Tuberculosis Association to deliver the annual Carl Puckett Memorial Lecture at the University of Oklahoma Medical Center. The lecture will be at 4 p.m., Wednesday, January 18. Doctor Huebner also will participate in other conferences and seminars on January 17 and 18.

Medical Public Relations Discussed in Chicago

Public relations-minded physicians and medical society executives took a long look in the mirror of public opinion during the American Medical Association's 1960 Public Relations Institute, held in Chicago on September 1 and 2. OSMA President Walter C. Brown, M.D., and Associate Executive Secretary Don Blair represented the state organization at the meeting. From Oklahoma and Tulsa Counties, were Executive Secretaries Alma O'Donnell and Jack Spears.

Image of Medicine

The importance of facing up to the challenge of the public image versus reality and recognizing "the cracks in medicine's mirror" was the theme of Thursday's opening session. In the keynote address, Pierre Martineau, research director of the *Chicago Tribune*, declared that the public image of doctors and their organizations will play a key role in the future course of political and public behavior involving the profession.

Citing many examples of public reaction to certain products and brand names, Mr. Martineau made this point:

"Every brand name that is well known at all is defined in the public mind partly by what it is but also, very importantly, by sets of psychological associations which may or may not be true. These persist almost like a halo attached to the product. Both of these constitute a brand image . . . All of our stimuli from the outside are filtered through the images that we have of a particular situation."

He pointed out that images can be modified, but not simply by supplying facts and information. It is imperative, he continued, to come to grips with the problem of the doctor and the AMA as they really are and as they are seen by the public, politicians and intellectuals.

Another speaker, Gerald J. Skibbins of Opinion Research Corporation, Princeton, New Jersey, declared that all of our authorities and authority symbols are under a major challenge to prove that they are worthy of the respect and attention of the people. A good, strong organization image, he said, requires positive, constructive actions that are well interpreted.

As Media Sees It

Regarding the relationship between physicians and newsmen, George Brandenburg, midwest editor of *Editor and Publisher*, reported that conditions have never been better. The real progress, he said, can be credited to physicians "who have learned to be articulate and who have demonstrated that you don't have to be a quack to get into print." Mr. Brandenburg added, however, that all is not rosy. He said there are still too many local instances of professional jealousy, adherence to the "tradition of silence" and attitudes which create the image of a "secret society."

Mr. H. A. Carlborg, CBS program director, warmed up on the same subject as applied to television. He reported that television reflects a favorable image of medicine. CBS is concerned with presenting the symbol of the doctor in the best possible and most favorable light, he said, and no material is allowed to glorify negative elements. He suggested, however, that television may well consider doing some programs which would point up some of the controversy that may exist within the profession.

Why the Problem?

Members of a panel discussion concerned themselves with why people see doctors as they do.

Many reasons were brought out, but the one most frequently advanced was the problem of "remoteness" or lack of personal involvement between patient and doctor. Too many physicians have lost some of the art of medicine, medical administration consultant James E. Bryan said, and there is also "a profound conflict between the profession's social outlook and the popular ideologies of our day." Another speaker questioned the wisdom of branding opponents with the label of socialism. Instead of merely disliking social and economic changes, it is better to regulate the underlying causes of the changes.

Answers Sought

Before the meeting was over, the registrants had ample opportunity to evaluate their responsibilities, discuss specific cases and generally measure the effectiveness of their public relations programs. Of particular value to the participants, was the formal and informal exchange of local public relations ideas.

Execs Meet

Prior to the AMA meeting, the doctors' hired hands, members of the Medical Society Executives Association, held a one day meeting on medical society management.

Press relations, relations with allied professions, medical journal publication, conduct of annual meetings, legislative activities and medical innovations shared the attention of the registrants. During this meeting, a new RCA Victor-NBC project was announced. Beginning in January, 1961, physicians in many parts of the country will be able to subscribe to a music-postgraduate education service for their offices. Each day the subscriber will receive carefully selected music for his waiting room, plus a fifteen minute postgraduate presentation which will be re-broadcast four times a day. During the postgraduate program, only the physicians private office will pick up the signal. Eventually, the service will be provided on a nationwide basis.

State Heart Association Holds Scientific Session

Seventy-one Oklahoma state physicians registered at the Scientific Session of the Oklahoma State Heart Association held September 23, 1960. They were treated to an experiment in medical education in the field of cardiovascular diseases. Ten consecutive cases from various sized hospitals throughout the state were presented. The cases discussed were representative of the problems encountered in the areas of congenital heart disease, congestive heart failure from any cause, valvular disease, and of myocardial infarction. In addition, postmortem findings in a series of cases were presented.

The discussion was led by Doctor Hans H. Hecht, Professor of Medicine, University of Utah College of Medicine, Salt Lake City, and Doctor Richard V. Ebert, Professor of Medicine and Chairman of Department of Medicine, University of Arkansas Medical Center, Little Rock.

Nearly half of the physicians who attended participated in the discussion from the floor. A questionnaire prepared by the Planning Committee of the Professional Education Committee of the Oklahoma State Heart Association which was responsible for the program showed a near unanimity of opinion that next year's meeting should be of the same general type.

Pioneer Physicians Honored at Bartlesville

Two pioneer physicians, one posthumously, were honored by the Washington - Nowata County Medical Society and the Oklahoma State Medical Association at a banquet held September 14 at the Jane Phillips Episcopal Hospital, Bartlesville.

The two physicians, L. D. Hudson, M.D., Dewey, and Harley M. Prentiss, M.D., Nowata, together accounted for nearly a century of medical practice, with about three-fourths of this time in Nowata and Washington Counties.

On hand to present OSMA Honorary-Life Membership Certificates was Walter E. Brown, M.D., state medical association president from Tulsa.

Mrs. Flo B. Prentiss, widow of Doctor Prentiss, accepted the honor in behalf of her husband who passed away last December. Doctor Hudson was present to receive his certificate.

Both physicians were products of interesting backgrounds. Doctor Hudson, who graduated from highschool at the age of 14, received an M.A. from Vanderbilt in 1904, taught school for two years, then attended the University of Nashville for his medical degree. Among other honors, he has been governor of the Oklahoma-Texas district of Kiwanis.

Doctor Prentiss, a 1918 O.U. graduate, came to Oklahoma before statehood, living with his family near Fairfax, Indian Territory. In 1929, he established his practice in Nowata.

Planes of visiting F.P.A. members crowd air strip of Western Hills Lodge.

U. S. Flying Physicians Hold Annual Meeting Here

Over 600 physicians and their wives from all over the country, members of the Flying Physicians Association, registered for the organization's annual meeting at Western Hills Lodge in Oklahoma's Sequoyah State Park, September 7, 8 and 9.

Aviation refresher courses in navigation, survival, night flying, instruments, instruction for sea plane ratings and helicopter piloting were interspersed with a schedule of speeches, clinics, orientation films and lectures presented by a group of outstanding guest speakers.

More than 135 aircraft, mostly light planes, were flown in by visiting delegates.

The Western Hills air-strip, a 2,500 foot blacktop runway, was in heavy use during the meeting. The Federal Aviation Agency sent a special crew to man the temporary control tower.

Check rides in helicopters were an innovation at this year's meeting. Physicians wanting the "chopper" experience received fifteen minutes of instrument briefing followed by a thirty minute ride. During the air time, physicians were given an opportunity to fly as well as land the crafts.

One unusual feature which was added this year was "operation touch down" for members of the "Doc-Ettes," an auxiliary organization composed of the physicians' wives. The idea was proposed to teach the doctors' wives how to land their husbands planes in case of emergency.

Newly elected officers of the group are Frank H. Coble, M.D., Richmond, Indiana, president; Robert O. Brown, M.D., Atchinson, Kansas, president-elect; L. D. Beck, M.D., Phoenix, Arizona, secretary; and Carl H. Guild, M.D., Tulsa, treasurer.

C. M. Starr, M.D., North Hollywood, California, retiring president of the F.P.A. (left), Mark E. DeGroff, Tulsa, executive director (center), and Frank H. Coble, M.D., Richmond, Indiana (right), incoming president, are shown visiting during recess in meeting activities.

Lamont's thirteen room, air conditioned clinic is pictured above.

Lamont Needs A Doctor

Lamont, a northern Oklahoma community of 700, needs a physician.

Until recently, the townspeople were enjoying good medical care, but the accidental death of their physician's wife resulted in his relocation. Now, Lamont leaders are actively soliciting the services of another doctor of medicine to staff their $31,000 community-owned clinic.

The clinic, which was constructed with voluntary contributions in 1959, contains thirteen rooms, including a reception room and business office, two treatment rooms, x-ray and darkroom, laboratory, physical therapy, convalescent bed room, facilities for minor surgery, private office, and three rest rooms. Citizens built the modern structure with voluntary labor after raising $22,000 for the building itself and another $9,000 for furnishings. Individual gifts ranged from $5 to $500.

The Lamont Clinic Association, a nonprofit organization, has been established to manage the activity. Five of the directors live in Lamont and five reside in outlying areas. Rent on the building and furnishings has been set at $100 per month.

Boasting a trade territory population of 2000 persons, the prosperous community has already proven that it will enthusiastically support an active practitioner. In fact, the energetic accomplishment of the clinic construction also inspired other civic improvements, such as the paving of twenty-eight blocks of city streets and the renovation of several downtown store fronts.

Interested physicians are encouraged to contact Mr. Archel Muegge, Box 155, Lamont.

American Heart Association Will Meet in St. Louis

St. Louis will host the 33rd Annual Scientific Session of the American Heart Association to be held October 21-23, 1960 in the Kiel Auditorium.

Six clinical programs, which run concurrently with the investigative scientific programs, will stress the application of findings in cardiovascular research and will be proportioned among symposia, panels, lectures of general interest and submitted papers on recent results of research. These sessions have been approved by the American Academy of General Practice as acceptable for Category II credit.

An innovation in this year's program will be a session scheduled for dentists and nurses.

Registration and accommodation forms may be obtained from the American Heart Association, 44 East 23 Street, New York 10, New York.

OB-GYN Board Schedules Examinations

The next scheduled examination, Part 1, written, to be held by the American Board of Obstetrics and Gynecology will be in various cities of the United States, Canada and military centers outside the Continental United States on Friday, January 13, 1961.

Current bulletins may be obtained by writing to Robert L. Faulkner, M.D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

Second Councilor District Holds Fall Meeting

Physicians and their wives from Kay, Noble, Osage, Payne and Pawnee counties, held their annual Fall Banquet at Stillwater's Elk's Club on September 22. More than sixty attended the social hour and dinner, traditionally conducted by Councilor District II in September as the kickoff meeting for organized medical activities in the area.

Special guests of the evening were: OSMA President Walter E. Brown, M.D., and Mrs. Brown; OSMA President-Elect Clint Gallaher, M.D., and Mrs. Gallaher; Mrs. Virgil Ray Forester, President of the Woman's Auxiliary to the OSMA, and Doctor Forester; and Don Blair, Associate Executive Secretary of the OSMA.

District II Councilors George B. Gathers, Jr., M.D., Stillwater, and A. M. Evans, M.D., Perry, were hosts for the event. Doctor Gathers welcomed the group and introduced the guests as well as the principal speaker, Doctor Brown.

Brown Speaks

Doctor Brown briefly described the operation of the central office of the Oklahoma State Medical Association, then presented a detailed history of events leading up to the recent enactment of health legislation for senior citizens. Beginning with the introduction of the controversial Forand Bill, he traced the activities of the officers and staff of both the state and national medical associations. He particularly emphasized the need which became apparent for organized medicine to support a positive alternative to the Forand Bill, and explained that H.R. 12580, the bill finally passed, represented an approach to the problem which *did* receive the endorsement of the American Medical Association (provisions of the bill are covered in the September issue of the *Journal* and elsewhere in this issue).

Lastly, Doctor Brown urged those present to have great respect for their voting rights. He reported that his recent experiences with national legislators revealed a continuing sensitivity to the political influence of the medical profession.

The next Fall Banquet of Councilor District II is set for September 12, 1961 in Cushing.

Two Tulsa Doctors Honored

Walter E. Brown, M.D., President of the Oklahoma State Medical Association (left), is seen as he presents gold 50-year pins to F. L. Underwood, M.D., and Walter S. Larrabee, M.D., both of Tulsa, in commemoration of the completion of fifty years in practice.

Also receiving a 50-year pin was D. L. Garrett, M.D., of Tulsa.

The presentations were made at the September 12th meeting of the Tulsa County Medical Society.

Doctor Larrabee was also awarded a plaque denoting Life Membership, to which he was elected at the May meeting of the House of Delegates.

Committee on Athletic Injuries Appointed

President Walter E. Brown recently announced that six physicians have been asked to serve on the Committee on Highschool Athletic Injuries, a sub-division under the direction of the Council on Public Health.

The physicians tagged for the assignment are: George B. Gathers, Jr., M.D., Stillwater (Chairman); C. W. Arrendell, M.D., Ponca City; Mark D. Holcomb, M.D., Enid; William G. Mays, M.D., Fairfax; R. G. Obermiller, M.D., Woodward; and Robert G. Perryman, M.D., Tulsa.

Last year, the group participated in the planning of a postgraduate course on athletic injuries and established liaison with the Oklahoma Coaches Association, the Association of School Administrators and the Oklahoma Chapter of the American College of Surgeons.

Admiring an album of "Employ the Handicapped" stamps are (l. to r.) Don Blair, Lt. Governor George Nigh, O.C. Postmaster Henry Friend, and O.C. Mayor James Norick.

Commemorative Stamp Dedicated to Handicapped

On August 28, the Postmaster General of the United States issued a commemorative four cent stamp embodying the theme, "Employ the Handicapped." To illustrate the theme, the stamp shows a man in a wheel chair operating a drill press. Over 100 million of the stamps were produced in the first issue.

Simultaneous presentation of the stamp was effected on Augut 28 in the capitol city of each state, as well as at special ceremonies in New York during the 8th International Society for Welfare of Cripples. The U.S. Postmaster appeared personally at the latter event, and presented albums of the stamp to representatives of sixty foreign countries.

In Oklahoma City, members of the "Employ the Handicapped" team, representing officials of business, civic and professional groups, gathered at the Goodwill Industries office for a presentation luncheon. Henry Friend, Oklahoma City Postmaster, presented an album to Lt. Governor George Nigh.

Mr. Don Blair, Associate Executive Secretary of the Oklahoma State Medical Association, attended the luncheon as an official representative of the physicians of Oklahoma. According to Mr. Blair, the stamp may be purchased at all post offices in Oklahoma. If out of stock at the local postoffice, the postmaster can order the stamp from the Oklahoma City post office.

Blue Shield Fees Undergo Study

A special committee has been appointed by Frank J. Nelson, M.D., Chairman of the Prepaid Medical Care Committee, to re-examine the complete Blue Shield schedule of allowances and make recommendations for equitable adjustments. The action followed a September 25th meeting of Doctor Nelson's committee, at which time it was brought to the attention of the group that the present Blue Shield schedule was basically unchanged since 1945.

Although a number of allowances have been adjusted since the original schedule was prepared, many physicians have indicated that the schedule as a whole is out of balance with current economic factors. The special committee will review the entire plan, using a system of relative values and perhaps employing other techniques to objectively modernize the schedule.

Serving on the special committee are: Robert B. Howard, M.D., Oklahoma City (Chairman); W. Carl Lindstrom, M.D., Tulsa; and Vernon M. Lockhard, M.D., Bartlesville.

In other actions, the Prepaid Medical Care Committee made recommendations regarding x-ray diagnosis for Extended Benefits, Retroactive Polio diagnosis, payment for Encephalitis cases, definition of authorized nervous and mental care, and coverage of alcoholism cases. A number of new medical and surgical procedures were also discussed, and recommendations made to Blue Shield as to including them in the schedule of allowances.

Rising utilization percentages continued to be of concern to committee members and Blue Cross-Blue Shield officials. Several suggestions were made to strengthen the financial stability of the plans.

The committee also endorsed the appearance of physicians as speakers for Blue Cross Member Council meetings over the state. It was explained that next year's programming would be designed to bring about a better understanding of the physician's role on the "health care team".

Transcript Press Now in New Home

The Transcript Press, printer of *The Journal,* has completed its move into a large, modern building at 222 E. Eufaula St., Norman, and has been in operation at the new quarters since August 25. All offices and mechanical departments of the Transcript Press, which has been operated as *The Norman Transcript's* commercial printing department, were moved from 111 S. Peters Ave., where they had been for 35 years.

"Henceforth, the Transcript Press and The Norman Transcript will be operated entirely separately," Harold Belknap, business manager of the company, announced.

Located on the southwest corner of Eufaula Street and Crawford Avenue, the new building, 75 by 140 feet, is completely air and light-conditioned. With all operations "channelized" on one floor, it has an additional 4,500 square feet of storage space in the basement. A 50-foot parking lot on the east will provide off-street parking for both customers and employees.

"The Transcript Press is now a complete plant with all of its typesetting, printing, binding and mailing facilities in one building," Belknap said. "Installation of several new pieces of equipment designed for speed, economy and quality makes it possible to furnish an improved and expanded printing service."

Albon W. Davis, A.I.A., Oklahoma City, was architect of the contemporary-style steel, brick and aluminum building.

Gene Nance is manager of the Transcript Press which has about 30 employees. Bob Buford is assistant manager; Glen McCaslin is production superintendent, and they are assisted in the office by Mrs. Bonita Busby and Mrs. Lorna Snyder.

The Press produces a wide variety of printed matter for businesses, industry and organizations, in addition to personal printing. It prints a number of state and regional magazines and journals.

Support Sought for County Road Bill

Senator Fred R. Harris, Lawton, has appealed to members of the Oklahoma State Medical Association to support the "Rural Road Improvement Act of 1961," which he will introduce in the next Legislature.

Termed the best solution yet to the problem of making sure the people get the most out of the $32 million the counties receive each year in road-user taxes, the proposal has already won the praise of the Oklahoma Public Expenditures Council and the Oklahoma Farm Bureau.

The Harris bill would leave control with the county commissioners, but makes sure they spend the money as honestly and efficiently as the people have a right to expect. Here are some of the main provisions of the Senator's measure:

1. Each board of county commissioners must post publicly a complete, specific road budget at the start of every fiscal year, and also a report at the end of the year showing how its money has been spent.

2. Open, competitive bidding is required on nearly all major items, but not on purchases up to $200. This keeps the commissioners from getting bogged down in red tape in minor buying, but forbids splitting purchases to cut them below $200. Such splitting would be a felony under the law.

3. All purchases of bridge and piling, culvert pipe, grader blades and tires, regardless of amount, must be made on the basis of exclusive six-month contracts awarded on competitive bids, thus allowing the counties the advantage of the best prices obtainable.

4. Purchase orders must be issued for all sales to the county, but provision is made for actual emergency purchases without delay.

5. The board must designate one or more employees, under bond, to receive and sign for shipments of everything bought by the county. This will guarantee the county gets what it buys. The commissioners may not receive or sign for shipments themselves.

6. No contract may be made with relatives of the commissioners.

7. Each board must file a report quarterly with the State Tax Commission certifying it is following this law. If it doesn't report or comply, the tax commission must withhold all the county's road funds.

8. Any act or combination of vendors to fix prices or violate this law would be a felony, and commissioners who violate any section are liable to stiff penalties and automatic loss of office.

"Most people are surprised when they are told this isn't already the law," Harris said, "but the truth is that there is hardly a single enforceable law governing this important $32 million a year program."

Harris pointed out that while this is a rural road bill, the city dwellers should not lose sight of the fact that they have a real stake in its outcome, because 36% of their gasoline tax is earmarked for these roads.

"I hope the Doctors will help me," Harris said, "and they can if each will spend a few minutes acquainting himself with the proposal, and then call or write his legislators urging their vote for it."

OU Alumni Plan 50th Anniversary Banquet

The Alumni Association of the School of Medicine of the University of Oklahoma has announced a Commemoration event on Sunday, October 23, 1960, in Oklahoma City, of special interest to approximately 1,200 OU doctor graduates practicing in Oklahoma and the 600 others practicing in the United States, and abroad. Hundreds of Alumni and their wives are expected to attend.

On that date, immediately preceding the 30th Annual Fall Conference of the Oklahoma City Clinical Society, the Alumni Association at a Banquet in the Persian Room of the Skirvin Tower Hotel will observe the Fiftieth Anniversary of the founding in 1910 of the four-year School of Medicine of OU.

Until 1910, only the first two years of the basic medical sciences were taught by the University of Oklahoma and medical students had to go elsewhere, almost entirely out of state, for their remaining two years of clinical instruction and their M.D. degrees.

In 1910, the four-year Epworth College of Medicine, which was launched in 1904 by Methodist Epworth University in Oklahoma City and which became a separate corporation in 1907, was merged with the two-year School of Medicine of the University of Oklahoma. The Epworth College of Medicine which taught clinical as well as pre-clinical medicine had been granting M.D. degrees since 1907, and none of its graduates had ever failed to pass the State Board examination.

The O. U. School of Medicine absorbed the entire faculty of the Epworth College of Medicine numbering 26 trained teachers of medicine, all of whom gave their services voluntarily, and all of whom were practicing M.D.s. Inherited also was a total student body of 47, consisting of six seniors, six juniors, 10 sophomores, and 25 freshmen. All tuition money went into equipment for pre-clinical laboratories.

Instruction in the basic medical sciences was discontinued at Oklahoma City and given only on the Norman campus. The junior and senior years of clinical instruction were conducted only in Oklahoma City at a home and hospital rented on Northeast 4th Street. In 1919, the University Hospital was constructed on Northeast 13th Street. In 1921, a Nurses Home was built adjacent thereto. The building of the present Medical School and the Oklahoma Hospital for Crippled Children in the same area followed in 1928. The Departments constituting the first two years were moved from Norman to Oklahoma City. The present OU Medical Center now located from 801 to 921 Northeast 13th Street subsequently developed.

Approximately 2,400 men and a few women have been graduated with M.D. degrees during this past half century by the School of Medicine of the University of Oklahoma, Dean Mark Everett estimated. To them, September 1910 is an historic occasion.

According to John R. Taylor, M.D., Kingfisher, President of the Alumni Association of OU's School of Medicine, the Golden Anniversary theme will be carried throughout the Annual Banquet on October 23rd, 1960, beginning with the Social Hour at 6:15 p.m., and continuing through the dinner, class reunions of 1910, 1915, 1920, 1925, 1930, 1935, 1940, 1945, 1950, and 1955, the general membership meeting, entertainment, and dancing, which follow. John H. Lamb, M.D., Oklahoma City, is General Chairman of the Class Reunions.

Officers and Trustees of the Alumni Association will be elected for the coming year during the Membership meeting. Officers, Trustees, and Past Presidents will transact their business following a luncheon at noon, according to Larry Rember, executive secretary, in preparation for the evening Membership meeting.

President Taylor urges all OU Medical School Alumni to attend this Golden Anniversary Banquet and Commemoration.

Carolyn Griffy Wins Lottinville Award

The Lottinville Award for Excellence in Nursing was presented to Carolyn Griffy, at graduation exercises of the University of Oklahoma School of Nursing, September 6. Elaine McMinn, left, educational consultant with the State Board of Nurse Registration, made the presentation. The award, established by Savoie Lottinville, director of the University of Oklahoma Press, is given annually to the outstanding OU nursing graduate selected by the Oklahoma State Medical Association, the University of Oklahoma School of Medicine and the nursing school. Miss Griffy is now a staff nurse at University Hospital.

Blue Cross Utilization Percentages*
Year, 1959 Compared to First Six Months, 1960

County	1959	1960	% Change	County	1959	1960	% Change
Adair	86.4%	152.9%	+66.5	Lincoln	117.9%	117.0%	—.9
Alfalfa	111.1	85.6	—25.5	Logan	64.3	64.0	—.3
Atoka	110.9	111.8	+.9	Love	80.1	60.5	—19.6
Beaver	84.7	86.1	+1.4	McClain	97.6	66.6	—31.0
Beckham	95.8	94.6	—1.2	McCurtain	123.2	121.4	—1.8
Blaine	114.6	147.7	+33.1	McIntosh	92.3	172.3	+80.0
Bryan	84.4	110.5	+26.1	Major	101.4	116.2	+14.8
Caddo	93.3	82.8	—10.5	Marshall	81.3	84.9	+3.6
Canadian	90.6	79.5	—11.1	Mayes	85.4	78.1	—7.3
Carter	83.3	89.4	+6.1	Murray	96.1	96.3	+.2
Cherokee	92.5	103.4	+10.9	Muskogee	90.2	96.6	+6.4
Choctaw	121.3	124.0	+2.7	Noble	109.3	113.8	+4.5
Cimarron	153.3	120.2	—33.1	Nowata	124.3	104.3	—20.0
Cleveland	91.1	102.4	+11.3	Okfuskee	86.2	129.2	+43.0
Coal	106.1	123.8	+17.7	Oklahoma	80.9	83.2	+2.3
Comanche	94.5	105.5	+11.0	Okmulgee	125.0	95.9	—29.1
Cotton	90.5	76.0	—14.5	Osage	121.2	102.1	—19.1
Craig	100.5	107.3	+6.8	Ottawa	96.3	92.1	—4.2
Creek	136.3	128.9	—7.4	Pawnee	117.9	134.4	+16.5
Custer	79.7	99.6	+19.9	Payne	92.0	88.4	—3.6
Delaware	106.0	81.6	—24.4	Pittsburg	102.7	105.9	+3.2
Dewey	87.9	102.4	+14.5	Pontotoc	115.2	100.9	—14.3
Ellis	84.8	67.8	—17.0	Pottawatomie	87.4	78.7	—8.7
Garfield	129.1	142.0	+12.9	Pushmataha	116.4	111.2	—5.2
Garvin	85.2	74.3	—10.9	Roger Mills	110.1	107.2	—2.9
Grady	72.4	81.6	+9.2	Rogers	99.8	122.9	+23.1
Grant	144.1	161.7	+17.6	Seminole	77.3	87.7	+10.4
Greer	72.3	91.1	+18.8	Sequoyah	125.9	110.7	—15.2
Harmon	90.2	122.1	+31.9	Stephens	101.4	101.5	+.1
Harper	87.2	75.3	—11.9	Texas	108.4	134.3	+25.9
Haskell	105.3	119.4	+14.1	Tillman	103.4	78.8	—24.6
Hughes	96.2	62.7	—33.5	Tulsa	111.5	100.0	—11.5
Jackson	86.6	108.2	—21.6	Wagoner	85.2	96.4	+11.2
Jefferson	151.6	127.6	—24.0	Washington	107.9	114.6	+6.7
Johnston	72.3	46.6	—25.7	Washita	79.9	114.0	+34.1
Kay	94.2	103.9	+9.7	Woods	104.9	114.2	+9.3
Kingfisher	78.1	76.8	—1.3	Woodward	100.6	113.6	+13.0
Kiowa	89.2	73.5	—15.7				
Latimer	103.3	105.4	+2.1				
LeFlore	89.7	98.2	+8.5	Average	99.6	102.1	+2.5

*Utilization is on a paid basis and does not include reserves, operating expenses, or any estimated retroactive payments.

Released by the Committee on Prepaid Medical Care for the Information and Education of OSMA Members.

Diabetes Week: November 13-19

In its year-round effort to find unknown diabetics and guide them to medical care, the American Diabetes Association will sponsor Diabetes Week, November 13-19. The Association will work through 45 local affiliate associations and through nearly 900 committees on diabetes organized within the state and county medical societies.

Out of every 140 patients that come into a physician's office, *one* may be an unknown diabetic. The American Diabetes Association is urging physicians to test every patient who comes in the office during Diabetes Week, and to test all patients at least once a year.

Cooperation of the practicing physician is essential if unknown diabetics are to be brought under medical care and thus remain effective members of the community. Full cooperation of every physician in testing patients during Diabetes Week and throughout the year will serve as a high-type form of public relations and, in the end, will promote better medical service and goodwill.

Diabetes Control Will Be Discussed

Recent advances in diabetes control with oral therapy will be discussed by four outstanding men in the field Wednesday, November 9, at the University of Oklahoma Medical Center.

Speakers will be: Garfield G. Duncan, M.D., professor of medicine at the University of Pennsylvania School of Medicine, and director of the medical division of Pennsylvania Hospital and Benjamin Franklin Clinic, Philadelphia; Henry T. Ricketts, M.D., professor of medicine, University of Chicago School of Medicine; Stefan S. Fajans, M.D., associate professor of internal medicine, University of Michigan Medical School; Leonard L. Madison, M.D., associate professor of medicine, University of Texas Southwestern Medical School.

Recent research developments will be reviewed during a morning session. The afternoon and evening program will consist of a postgraduate short course on present status of the use of these oral agents in clinical practice.

Reservations may be made through the Postgraduate Office at the Medical Center.

Deaths

William C. Cole, M.D.
1915-1960

William C. Cole, M.D., 44-year-old Lawton physician, died September 11, 1960.

A native of Lawton, Doctor Cole graduated from the University of Oklahoma School of Medicine in 1941. After interning in Wesley Hospital in Oklahoma City, he established his practice in Lawton.

In addition to his affiliation with his county medical society and the state medical association, Doctor Cole was a member of the Oklahoma City Clinical Society.

Herman O. Gowey, M.D.
1877-1960

Herman O. Gowey, M.D., 82-year-old Kay county physician, died in Ponca City September 4, 1960.

Born in Bryton, Iowa in 1877, Doctor Gowey graduated from Keokuk Medical College, Keokuk, Iowa in 1907. The following year, he established his practice in Roosevelt, Oklahoma, later moving to Kildare and then to Washunga when he became medical director for the Kaw Indian Tribe. Doctor Gowey moved to Newkirk in 1913 and had remained there since that time.

In 1917, he established Newkirk's first hospital which he operated for a number of years.

Doctor Gowey had served as city health director in Newkirk and was physician and surgeon for the Santa Fe railway until his retirement in 1958.

More than keeping abreast . . . keeping ahead!

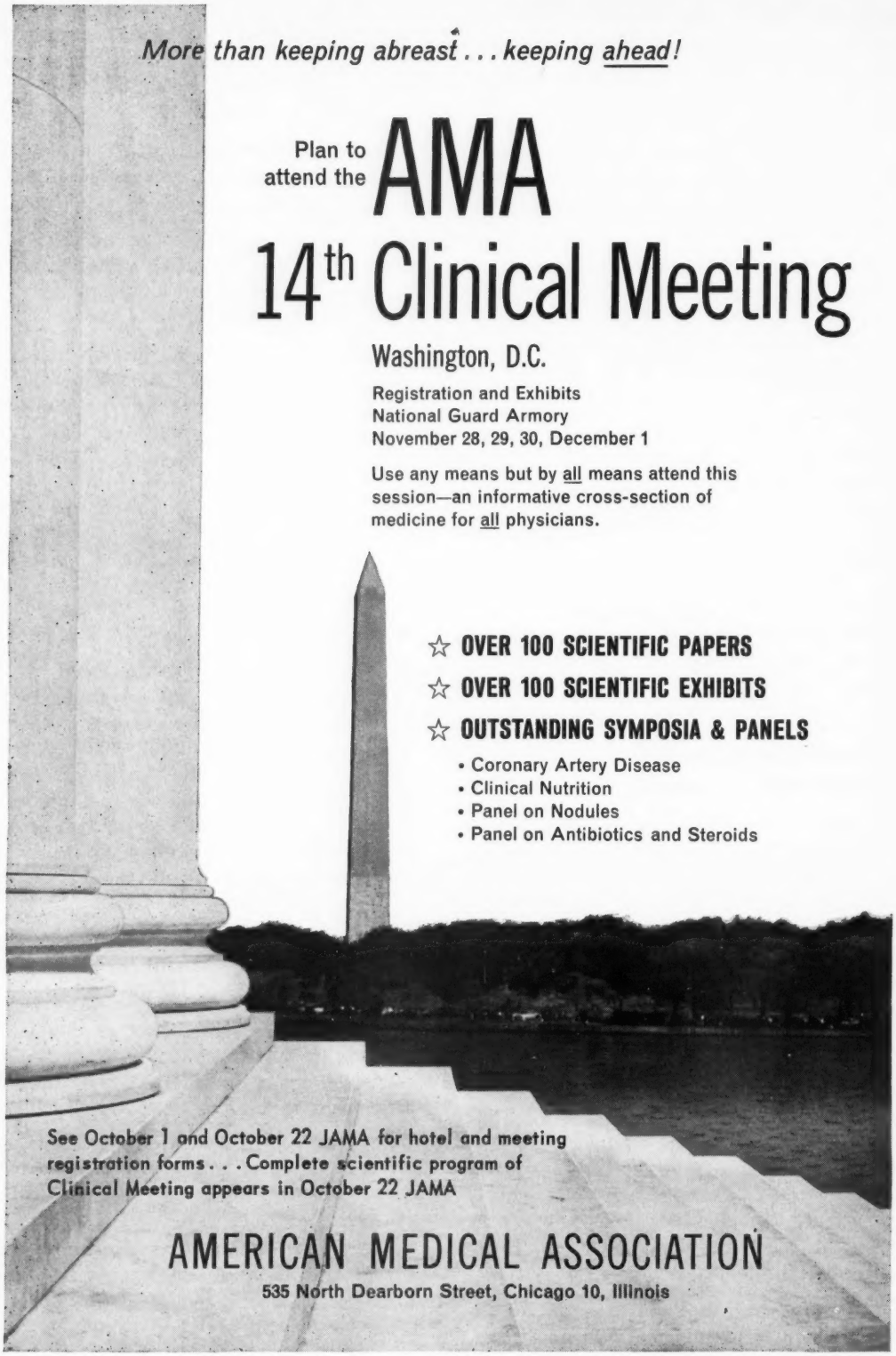
Plan to attend the **AMA**

14th Clinical Meeting

Washington, D.C.

Registration and Exhibits
National Guard Armory
November 28, 29, 30, December 1

Use any means but by all means attend this session—an informative cross-section of medicine for all physicians.



☆ **OVER 100 SCIENTIFIC PAPERS**

☆ **OVER 100 SCIENTIFIC EXHIBITS**

☆ **OUTSTANDING SYMPOSIA & PANELS**

- Coronary Artery Disease
- Clinical Nutrition
- Panel on Nodules
- Panel on Antibiotics and Steroids

See October 1 and October 22 JAMA for hotel and meeting registration forms . . . Complete scientific program of Clinical Meeting appears in October 22 JAMA

AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street, Chicago 10, Illinois

Coming Meetings

University of Oklahoma Medical Center
POSTGRADUATE SHORT COURSES

Nov. 9—Medicine—Oral Hypoglycemic Agents (to be preceded by a morning research session).

Dec. 14—Anesthesiology—Anesthesia in General Practice.

Jan. 11—Pediatrics—Pediatric Radiology (tentative).

Feb. 8—Medicine—Cerebral Vascular Disease.

March 8—Urology—Symposium and C. B. Taylor Lectureship.

April 12—Surgery—Techniques of Cardiac Resuscitation.

May 10—Pediatrics—Infectious Diseases in Infancy and Childhood (tentative).

Courses, offering four hours of formal instruction, are held from 3:30 to 8:30 p.m., the second Wednesday of the month, in the Medical School Auditorium. Registration is $3 per session or $25 for the entire series. Additional information may be obtained by writing the Office of Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Oklahoma City, Oklahoma.

Fourteenth Annual
SOUTHWEST REGIONAL CANCER CONFERENCE
Academy of Medicine
October 23, 1960 **Fort Worth, Texas**

John R. McDonald, M.D., pathologist, Harper Hospital, Detroit, Michigan; Juan Angel del Regato, M.D., radioligist, Penrose Cancer Hospital, Colorado Springs; and Bentley P. Colcock, M.D., surgeon, Lahey Clinic, Boston, will be guest lecturers for the Fourteenth Annual Southwest Regional Cancer Conference to be held in Fort Worth, October 23, 1960.

Further details may be obtained by writing to the American Cancer Society, Tarrant County Unit, Suite 111-115 Westchester House, 554 Summit, Fort Worth 2, Texas.

CLINICAL SYMPOSIUM
on
PEDIATRIC ONCOLOGY
November 11-12, 1960 **Houston, Texas**

The University of Texas Postgraduate School of Medicine and The University of Texas M.D. Anderson Hospital and Tumor Institute will co-sponsor a Clinical Symposium on Pediatric Oncology in Houston on November 11-12, 1960.

Important aspects of chemotherapy, surgery and radiotherapy in the management of children with various types of neoplastic disease will be covered.

For further information write to Office of the Dean, The University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston 25, Texas.

CORONARY ARTERY DISEASE
Nov. 28-Dec. 2, 1960 **Texas Medical Center**
Houston, Texas

The University of Texas Postgraduate School of Medicine will present a symposium on Coronary Artery Disease, November 28 through December 2, 1960 at the Texas Medical Center, Houston, Texas. Six guest lecturers, augmented by a local faculty, will present the program.

This five-day program has been approved by the Academy of General Practice for Category I Credit. No tuition will be charged unless physicians attending desire AAGP credit in which case a $5.00 registration fee will be required.

For further information write: Office of the Dean, University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston 25, Texas.

Postgraduate Medical Study
in
OBSTETRICS
November 7, 8, 9, 1960 **Kansas City, Kansas**

The University of Kansas School of Medicine in cooperation with the Kansas State Obstetrical Society, the Kansas State Board of Health and the Kansas Medical Society will present a postgraduate medical study in Obstetrics, November 7, 8, 9, 1960 in the Battenfeld Auditorium in Kansas City, Kansas.

Detailed information is available from Department of Postgraduate Medical Education, University of Kansas School of Medicine, Kansas City 12, Kansas.

Southern Chapter
of the
AMERICAN COLLEGE OF CHEST PHYSICIANS
October 30-31, 1960 **St. Louis, Missouri**

The Southern Chapter of the American College of Chest Physicians will hold its 17th annual meeting at the Statler-Hilton Hotel in St. Louis, Missouri, October 30-31, 1960.

Further details may be obtained by writing the American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Postgraduate Course in
FRACTURES

November 3-5, 1960 **Denver, Colorado**

A postgraduate course in Fractures, sponsored by the University of Colorado School of Medicine, Division of Orthopedic Surgery and the office of postgraduate Medical Education will be offered November 3-5, 1960 in Denver.

Further information may be obtained by writing to the University of Colorado Medical Center, 4200 East Ninth Avenue, Denver 20, Colorado.

9th ANNUAL CANCER SEMINAR
Arizona Division
American Cancer Society

January 12, 13, 14, 1961 **Tidelands Motor Inn**
Tucson, Arizona

"Changing Concepts in Tumor Formation and Therapy" will be the theme for the three-day meeting of the 9th Annual Cancer Seminar to be presented by the Arizona Division of the American Cancer Society on January 12, 13 and 14, 1961 in Tucson, Arizona.

Further information may be obtained by writing to the American Cancer Society, Arizona Division, 37 East Jackson Street, Tucson, Arizona.

ASSOCIATION OF MILITARY SURGEONS

October 30-November 1, 1960 **Washington, D.C.**
Mayflower Hotel

The 67th Annual Convention of the Association of Military Surgeons will meet October 30, 31, November 1, 1960 at the Mayflower Hotel in Washington, D.C.

There is no registration fee for the session and reserve officers attending the meeting may register for credit points.

For detailed information, write to the Association of Military Surgeons, 1726 Eye Street, N.W., Washington 6. D.C.

INTERSTATE POSTGRADUATE MEDICAL ASSOCIATION

October 31-November 3, 1960 **Pittsburgh, Pennsylvania**
Pittsburgh Hilton Hotel

The 45th Scientific Assembly of the Interstate Postgraduate Medical Association will be held at the Pittsburgh Hilton Hotel in Pittsburgh, Pennsylvania October 31—November 3, 1960. The assembly is acceptable for a maximum of 16½ hours of Category 1 credit by the American Academy of General Practice.

Programs may be secured by writing to Roy T. Ragatz, Executive Director, P.O. Box 1109, Madison 1, Wisconsin.

THE AMERICAN COLLEGE OF PHYSICIANS

Schedule of Postgraduate Courses

Autumn-Winter, 1960-1961

The following postgraduate courses have been listed by the American College of Physicians:

THE PHYSIOLOGIC BASIS OF ELECTROCARDIOGRAPHY

November 7-11, 1960 University of Utah
College of Medicine
Salt Lake City, Utah

RECENT ADVANCES IN DRUG THERAPY

January 9-13, 1961 University of Washington
School of Medicine
Seattle, Washington

MECHANISMS OF DISEASE

January 16-20, 1961 Columbia University
College of Physicians
and Surgeons
New York City, New York

SELECTED TOPICS IN INTERNAL MEDICINE

February 20-24, 1961 University of Oklahoma
School of Medicine
Oklahoma City, Oklahoma

Additional information may be obtained by writing to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

COURSE IN LARYNGOLOGY AND BRONCHOESOPHAGOLOGY

October 17-20, 1960 **University of Illinois**
College of Medicine

Chicago, Illinois

The Department of Otolaryngology, University of Illinois College of Medicine, will conduct a postgraduate course in Laryngology and Broncheosophagology from October 17 through October 29, 1960, under the direction of Paul H. Holinger, M.D.

Registration will be limited to fifteen physicians who will receive instruction by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants may write to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

Auxiliary News

SWAT

*S*afe *W*ater *A*ctivity *T*raining, striking primarily at the causes of accidents and deaths in water sports, is the National Safety theme for 1960-61. Our National Safety Committee proposes we begin our campaign at home-base: by encouraging "Every Doctor's Child Learn to Swim" as a primary objective.

The need and basis are obvious: 300,000 American families have private swimming pools; 26 million persons go fishing each year; almost 8,000,000 recreational boats are in use; water skiing, skin and scuba diving are increasing. It is estimated that by 1970 40% of our population will be participating in some phase of water sports.

Your local Safety Chairman will supply you with all necessary details. Our State Safety Chairman is Mrs. Robert S. Ellis, 1908 Huntington Drive, Oklahoma City.

In addition to this Number 1 project, additional ones are listed:

2. Poison Control (Community alertness to poison control centers and hazards in the home).

3. Senior Citizens (Accident prevention in the care of the aged).

4. Traffic Safety (Driver's Educational courses, use of safety awards locally, and the Carol Lane program).

5. Gem's Program (Special training for baby-sitters: Gems means "Good Emergency Mother Substitutes").

6. Home and Farm Safety (Cooperation with Safety Councils, police and fire departments, Red Cross, etc.).

Whatever your local needs, every county auxiliary can concentrate on any one of these projects or on all: we can never overrate Safety!

Required Reading

In some organizations so-called "Required Reading" has an ominous connotation. Not so with Auxiliary; our required reading is, of course, the National Bulletin. It is well-written, informative, and all-inclusive in coverage of our work. The cost is only $1.00; it is published in September, January, March and May. We need to subscribe 100%. If you do not have a local chairman, send your subscription immediately to Mrs. Lawrence Thompson, Jr., 4041 South Richmond, Tulsa. Every member needs the Bulletin; you really cannot afford being without it—it's that good.

Are you constantly being questioned by people interested in all magazine articles? Following the current trend toward predigested literature, we feel that medical wives would readily provide the buying public necessary for current magazine articles dealing with health. In September several questions were levelled at me concerning Harper's: *A Proposition for Women and Epilepsy and the Law.* Great interest is also shown in the forthcoming special supplement in the same magazine, *The Crisis in American Medicine.* Present coverage, whether agreeable, slanted, or completely misleading, indicates there will be no future lag in our reading required to be intelligent and informed.

ANNUAL FALL CONFERENCE

October 24, 1960 — State Medical Building

Coffee and Registration: 9:30 a.m. — Conference: 10 a.m.

Book Reviews

Pardon My Sneeze, Milton Millman, M.D., Kuchirka Books, 1960, pp. 215, $4.00.

"Pardon My Sneeze" is a review of allergy with a humorous slant, written for the layman, in order to catch and hold his interest. This is the second edition.

This monograph is intended primarily for allergy patients and the families who care for them so that they may better understand the disorder and its management.

It covers the field of allergy fairly well from a non-professional standpoint and illustrates many points by cartoons which are evidently meant to stress the points and clarify them.

The simplicity of the monograph is clouded by a rather voluminous technical desertation with minute details as to environment, diets, recipes and food diaries. These passages are intermingled with more technical passages concerning this *new* specialty of medicine, emphasizing an endless series of injections, environmental controls, restrictions and restraints. Such phases could have an adverse effect on the average person and tend to make him believe that his allergies are too mystifying, complicated and burdensome to even attempt to correct. This belief is already prevalent among the majority of laymen and many professional men. Too, the "gagmen" of TV and radio have twisted allergy around so much trying to squeeze a bit of humor from it that the true meaning of allergy has been lost. (Allergy means an altered reaction of the individual to a foreign protein and/or his environment.)

The rhetoric is very elementary and is often not of the "King's English." However; this, the type or print, and the paper used facilitates easy reading. The questions and answers simplify the subject though some of the causative factors mentioned in the text are not agreed upon by all allergists. Notwithstanding this fact it is fairly representative of the thinking and practices of the majority of men in the field.

The field of allergy although broad in scope and young in comparison with other specialties, is not as mystifying as it might seem. Neither is the management or control of the disease so complicated the sufferer must live in a glass house and eat only broccoli and cauliflower and endure endless injections until his life is as miserable as that of the ancient monks who wore hair shirts; nor is it a disease that only the rich can afford.

The layman must be educated against such erroneous ideas and be given a true picture. If "Pardon My Sneeze" can accomplish this end, it will have served a purpose in medical literature. If it has in the layman's mind imprinted only the facetious and complicated it has failed. Only a layman can answer this question. From a professional standpoint it has touched on all of the adverse phases but I believe the good material and knowledge imparted outweighs this concept.—*Johnny Blue, M.D.*

Fifty Years of Neurosurgery: A Personal Story, Ernest Sachs, M.D., Vantage Press, Inc., 1958, New York, pp. 186, price $3.50.

This book is the autobiography of Doctor Ernest Sachs, long the Professor of Neurosurgery at Washington University in St. Louis. It is, in addition, a historical resume of the development of neurosurgery as a specialty. Doctor Sachs was born in 1879 in New York City. The guidance towards a scholarly career by his father, Doctor Julius Sachs, Professor of Secondary Education at Columbia University, is constantly evident even during his early years. During his college days at Harvard University, Doctor Sachs was stimulated to pursue a medical career by Doctor Walter Cannon, the future Professor of Physiology who at that time was an assistant in biology, and by his uncle, Doctor Bernard Sachs, a New York neurologist. At Johns Hopkins Medical School he was influenced by many members of the faculty but most notably Doctors Osler, Halstead and Harvey Cushing. Probably the

greatest influence in his choice of neurological surgery as a specialty, however, was Sir Victor Horsley of London with whom Doctor Sachs trained.

After a year of surgical practice in New York, Doctor Sachs accepted a position in the Department of Surgery of the newly organized Washington University School of Medicine in St. Louis with the special objective of developing a division of neurological surgery. Doctor Sachs details the many trials and tribulations that went in developing his own outstanding neurosurgical division as well as those of neurosurgery as a struggling young medical specialty. The book's interest is enhanced by many personal anecdotes concerning the author's teaching experiences, the development of professional neurosurgical societies, interesting sidelights concerning the many prominent neurosurgeons who trained in his clinic, and highlights of various medical meetings that he attended throughout the world.

In May, 1949, he retired from Washington University and was appointed Research Fellow in Physiology at Yale University School of Medicine. Here he has continued his writings relating to neurological surgery and medical history.

This small book should appeal to anyone interested in the history of neurological surgery.—*Harris D. Riley, Jr., M.D.*

Warning to Physicians and Nurses

Physicians and nurses who do purchasing for physicians' offices are warned by a Washington County Attorney who recently reported that a salesman purporting to represent a reliable uniform company, had called upon the office of a Bartlesville physician, taking an order for nurses' uniforms and receiving a check in payment thereof.

When the merchandise failed to arrive, an investigation disclosed that this person had, for the past twelve years been engaged in defrauding doctors, nurses, dentists and others, through this same scheme and was in no way legally connected with the firm he was purported to represent.

A check of proper credentials should be made before purchasing merchandise from an unknown salesman.

PHYSICIAN PLACEMENT

General Practice

Johnny Bill Delashaw, U.S.P.H.S. Hospital, Wyman Park Drive and 31st Street, Baltimore 11, Maryland, age 27, married, University of Texas Medical Branch, 1959, available July 1960.

John William Kennard, M.D., Blowing Rock Hospital, Blowing Rock, North Carolina; married; age 29; Bowman Gray School of Medicine, 1956; veteran; available August 29, 1960.

Robert D. McKay, M.D., Edgewood, Texas; Age 70; married; University of Illinois, 1907; available now.

Carle H. Schroff, M.D., 3811 State Line, Kansas City 11, Missouri: Age 31; married; University of Kansas, 1959; veteran; available August, 1960.

Internal Medicine

Jeanne B. Johnson, M.D., 4917 SE Cornell Drive, Bartlesville, Oklahoma; age 31; married; University of Oklahoma School of Medicine, 1955; specialty, internal medicine; eligible, immediately.

Thomas Turner Walton, Jr., M.D., 7375 Churchill, Detroit, Michigan: Age 29; married; Baylor College of Medicine, 1955; Board eligible; veteran; specialty, internal medicine; desires group or associate practice; eligible, July 1961.

Locum Tenens

Harold W. Calhoon, M.D., Wesley Hospital, Oklahoma City. One year residency in Internal Medicine. Available July 1 to September 15th, 1960.

Russell M. Preston, M.D., 476 San Juan, Oak Harbor, Washington, desires six month's work in General Practice between time of separation from military service to beginning of residency training, January-July, 1960.

Obstetrics and Gynecology

Gerald R. Keilson, M.D., Medical Arts Building, Dallas, Texas, age 31, married, University of Texas, 1953, board qualified, veteran, available in July 1960.

Juan C. Ruiz, M.D., 350 Park Ave., Lexington, Kentucky; age 36; married; University of San Marcos Medical School 1952; no military obligations; available July 1, 1960.

Robert B. Williams, M.D., 27 Normandy Road, Auburndale 66, Massachusetts; married; age 30; Tulane University, 1955; board certified; available July 1, 1961.

Orthopedics

Newsom Stool, M.D., c/o Mayo Clinic, Rochester, Minnesota; age 30; married; Baylor University 1953; Board eligible; available July 1960.

Urology

Alex Grossman, M.D., V.A. Center, Temple, Texas, 42, married, University of Texas, 1951, board certified, veteran, available now.

25 YEARS AGO

Articles published in *The Journal* of the Oklahoma State Medical Association, October, 1935.

Personal Experiences with Prostatic Resection

Henry S. Browne, M.D.
Tulsa, Oklahoma

It is with some diffidence that I discuss a subject which has been written about by many men with much more experience than I have had. The early literature gave the impression that prostatic resection, while somewhat technical, was practically devoid of discomfort or danger to the patient. The potential dangers, and they are ever present, were barely mentioned, if at all.

In my first thirty cases, five resulted in temporary, and one in permanent incontinence—in a case of malignancy who has since died. This, I finally realized, was due to the fact that while the cut was being made, the sheath would creep outward unless it was firmly held, and I have had no such cases since. I have later cystoscoped four of these men and in each instance the verumontanum had been shaved off. High post-operative temperature was the rule, though typically the pulse rate remained below ninety and the patient's general condition was good. The sixth patient died in three weeks from a septic condition, caused, I believe, by resecting too deeply and getting through the bladder wall. One developed a high temperature as soon as the retention catheter was removed, which lasted a week. Cystoscopy has since shown that the entire trigone nearly through the bladder wall had been resected. The prompt reinsertion of the catheter without a doubt saved his life.

I, therefore developed an early and lasting respect for this procedure, and realized that the more equipment one had the better off one was. This includes various examining telescopes and duplicate operating parts with the new telescopes which give far better vision than the original operating telescopes. I had done thirty cases before I felt reasonably sure of where I was working at all times. In spite of the above mishaps described in my early cases the results were good enough and the post-operative course was superior to that of prostatectomy, that I was encouraged to continue and my results are getting better and complications less all the time as I become more and more familiar with the procedure. I have done ninety resections and in the same period two prostatectomies, because I could not introduce the instrument into the bladder. I am, therefore, one of those who believe that resection is applicable in practically every case of prostate enlargement.

I am thoroughly convinced that prostatic resection is the answer to an old man's prayer. The easy convalescence and almost complete lack of post-operative discomfort still amaze me. It will accomplish all that prostatectomy ever did and leave a man with his prostate. When done correctly the results are uniformly excellent and one such operation will convert the most confirmed prostatectomist into an ardent resectionist. The poor results and enormous mortality of some men have given the procedure an undeserved bad name in certain quarters. It is one of the most delicate, difficult and technical operations in surgery and when done properly it is followed by brilliant results, but when done improperly it is fraught with the gravest dangers to the patient. The rectoscope is a marvelous instrument, but it can become a deadly weapon. Any man who has done prostatic resection and condemns it, thereby convicts himself of being unable to do it properly.

MISCELLANEOUS ADVERTISEMENTS

FOR RENT: Available October 1, Clinic Building to accommodate one or two doctors. Excellent facilities. Long-established background. Located 318 West Commerce. Contact Miss Dining, ME 4-0573 or CE 6-5222.

WANTED: Surgeon to join old established group in town of 10,000 population in West Texas. Need not be Board certified but with adequate residency training. Write Key A, THE JOURNAL, Oklahoma State Medical Association, P.O. Box 9696, Oklahoma City, Oklahoma.

WANT TO BUY USED X-RAY machine, components and accessories. Send full description and photo. Reconditioned, guaranteed X-rays and medical equipment for sale or trade. Write or call TeX-Ray Co., 3305 Bryan, Dallas, Texas, TA 4-8565. (Open to the profession Wednesdays and Thursdays, 9-5. Other times by arrangement.)

WANTED: Internist to join old established group in town of 10,000 population in West Texas. Need not be Board certified but with adequate residency training. Write Key A, THE JOURNAL, Oklahoma State Medical Association, P.O. Box 9696, Oklahoma City, Oklahoma.

EXCELLENT OPPORTUNITY for doctor interested in general practice. Three-doctor clinic in town of 5,000, trade territory of 12,000. Contact Bowie Clinic, Bowie, Texas.

FOR RENT IN TULSA: Suite of four rooms in clinic with two doctors and a dentist. Mrs. L. C. Northrup, 1828 E. 32nd Place, Tulsa, Oklahoma.

FOR SALE: Burdick EK 111 ECG; Hamilton, coral colored examining table; Castle Autoclave. All are practically new and are reasonably priced. Jeanne B. Johnson, M.D., 4917 E. Cornell, Bartlesville, Oklahoma.

FULLY EQUIPPED general practice office and x-ray practice immediately available. May be purchased with the income from the practice. Ideal for internist or generalist. Call WE 6-9453 or write John C. Kramer, M.D., 1547 South Lewis, Tulsa 4, Oklahoma.